FACTORS SUPPORTING THE LEARNING OF RETAIL BANKING INFORMATION AND COMMUNICATION TECHNOLOGY SYSTEMS: A WESTERN KENYAN REGION PERSPECTIVE

by

Brender Adhiambo Okong'o

Submitted in fulfilment of the requirements for the degree of

MASTER OF COMMERCE

in the subject

BUSINESS MANAGEMENT

at the

University of South Africa

Supervisor: Prof MJ Bushney

February 2018

DECLARATION

Student number: **4991-996-2**

I, BRENDER ADHIAMBO OKONG'O, declare that this dissertation, entitled "*Factors supporting the learning of retail banking information and communication technology systems: a western Kenyan region perspective*" is my own work, and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

22 February 2018

SIGNATURE DATE

ACKNOWLEDGEMENTS

First and foremost, I would like to express my gratitude to the Almighty and Gracious God for granting me the life, abilities and knowledge to continue to learn and grow - personally, professionally and spiritually.

I would also like to thank my supervisor, Professor Melanie Bushney, for her relentless guidance, patience and insights cultivated in me throughout this research. Prof, your prompt feedback made a whole world of difference in my own research career. Thank you for your dedicated supervision.

Special thanks and appreciation also go to:

- My Mom and my late Dad for raising us in a God-fearing environment and being our source of inspiration. I am where I am today because of you.
- My hubby and friend, Professor Thomas Olwal for your unwavering love, support and sacrifice. When I was discouraged, you gave me reasons to work harder. You have demonstrated to me that there is no room for mediocrity in academics. Thank you.
- My loving son, John-Shem Einstein and jovial daughter, Grace Audrey for lighting my life and lifting my spirit whenever I was down. This work made it difficult for me to give you full attention. You will understand, as you grow older, why I had to study.
- My siblings: Dorothy, Hellen and Ishmael for your constant prayers, love, encouragement and belief in me. I am blessed to have you in my life.
- Dr Marthi Pohl: You have been awesome! Thank you for assisting me with the statistical processing, interpretation of the data and quality checks on this work. Your dedication towards the success of this work is highly appreciated.
- Dr Cookie Govender: Your earlier inputs to the study are highly recognised. Prof Mariette Coetzee: Thank you for reviewing and making invaluable suggestions to my proposal. Ms Melanie Malan: You worked hard to do a library search for me.
- Mr Arthur Nyakado: Thank you for accepting the role of being a field research assistant.
- Mr Stafford Osuri: Thank you for the professional editing of the dissertation.
- All my friends: Your patience with me is highly appreciated.

Finally, I would also like to thank the University of South Africa for giving me the study opportunity, M&D bursary and time to complete this research.

ABSTRACT

This study identified and empirically investigated individual employee, organisational and information and communication technology (ICT) systems factors to determine the extent to which these factors support employees' learning of the adopted retail banking ICT systems before undergoing training. Quantitative research approach was followed. A realised stratified random sample of 237 respondents consisting of tellers and customer care consultants (one group) and line managers (second group), working at branches of various retail banks in the western region of Kenya, participated in this study.

Descriptive, exploratory factor and inferential statistical analyses were conducted. The results showed: a high level of agreement with the identified factors; significant positive linear relationships between the factors; statistical significant differences ($p<0.05$) between the respondent groups and between the categories for each demographic variable with regard to the respondents' level of agreement with each factor. Supportive and directive learning strategies were recommended for retail banking employees before training.

Key terms

Customer care consultants, factors, learning, line managers, retail banking information and communication technology (ICT) systems, tellers and training.

TABLE OF CONTENTS PAGES

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1 : SCIENTIFIC ORIENTATION TO THE RESEARCH

1.1 INTRODUCTION

In the banking industry of the 21st century, the productivity of businesses is constantly exposed to extinction in the competitive world (Dupas, Green, Keats & Robinson 2012; Mai 2012; Ishmael 2015; CBK 2016; Robinson 2017). One of the key reasons for such an exposure can be attributed to the lack of identifying and empirically investigating the factors that affect employees' learning of the adopted banking information and communication technology (ICT) systems before undergoing training. In this study, training will be referred to mean the formal process of imparting the intellectual capital onto the employees by their employer for the improvement of their knowledge, skills, attitudes and abilities to effectively perform assigned duties (Garavan, Carbery & Rock 2012). As a new capital for both individual and organisations, training is part of the dimensions of the intellectual capital which consist of education, competencies, values, attitudes and experience components (Garavan *et al.* 2012).

According to the University of Leicester (2017), a situational-based definition of training can be provided. That is, training is the modification of certain conditions that enable the trainee or trainees to develop the competency required to fulfil their work responsibilities or undertake some other purposeful activity. It is thus prudent that many banks, especially retail banks invest heavily on a research-based study that can identify and empirically investigate such factors that affect the learning of their employees of the adopted banking ICT systems. The factors can be categorised as the individual employee, organisational and ICT systems-based factors to ensure that such research-based studies remain tractable (Sambrook 2002; Caudill 2015).

Thus, this study focuses on identifying and empirically investigating individual employee, organisational and ICT systems-based factors in order to the determine the extent to which these factors support the Kenyan retail banking employees' learning of the adopted banking ICT systems before undergoing training. The term retail banking

employees refers to skilled employees or staff of retail banking institutions paid to perform formal banking responsibilities such as the customer care consultancy, transactions of banking products and services, and management roles (Abukhzam & Lee 2010; Carnegie 2013). This study will first review the literature in order to identify key factors that affect employees' learning at the workplace. Based on the identified key factors, the study will then empirically measure the level of agreement amongst the retail banking employees with regard to the factors that support their learning. The Harvard referencing method will consistently be applied for citation throughout this dissertation (DHRM 2013).

This chapter provides the background to and motivation for the study. The problem statement, the research questions, the primary and secondary research objectives as well as the meta-theoretical statements of the study are presented. The chapter further explains the significance of the research, and describes the research design and method applied in this study. The chapter also provides a definition of terms and key concepts; states the scope of the research, expected limitations, delimitations and assumptions. The ethical considerations to be observed and the layout of the study are described.

1.2 BACKGROUND TO AND MOTIVATION FOR THE RESEARCH

This section presents an overview of the Kenyan retail banking industry with regard to the learning of the adopted banking ICT systems (Sections 1.2.1, 1.2.2 and 1.2.3). It also outlines factors that support employees' learning at the workplace, particularly in a retail banking industry (Section 1.2.4).

1.2.1 The banking ICT systems

Businesses of the 21st century operate in a complex and competitive environment. This environment is characterised by rapid technological innovations, increased awareness

and demands from the customers (Agboola 2008; Wanyama & Mutsotso 2010; Dupas *et al.* 2012; Robinson 2017). These businesses have witnessed the advent of electronic commerce (e-commerce) in which the products, services and payments are exchanged through telecommunication systems (Weber & Kauffman 2011; Mai 2012). The banking industry is amongst the businesses that have been influenced by this technological change (e-commerce innovation) (Saranya, Anitha & Vasantha 2014). The e-commerce innovation boasts of being able to create conditions for better economic growth and prosperity globally (Diniz, Pozzebon & Vargas 2008; Ismail 2015). The industry adopts modern banking ICT systems to deliver their banking products and services to their customers (Abukhzam & Lee 2010; Mai 2012; Saranya *et al*. 2014). The banking ICT systems automate and digitise most of the banking transactions (Khalfman & Akbar 2006; Mai 2012; Saranya *et al*. 2014; Schuchmann & Seufert 2015).

According to Ongori and Migiro (2010), Maduku (2013) and Al-Ajam and Nor (2015), ICT systems broadly comprise of software, hardware, telecommunication and information management technologies, applications and devices. The aforementioned systems can originate, produce, process, package, distribute, retrieve, store and transform information (Mai 2012). The banking ICT systems comprise of servers, desktop computers, laptops, handheld devices, wireless intranet, internet, businesses productivity software such as text editors and spreadsheets, enterprise software, data storage, network security and electronic banking (e-banking) technologies (Ashrafi & Murtaza 2008; Mai 2012). The contemporary e-banking technologies include tele-banking, automated teller machines (ATMs), home banking and internet (online) banking (Saranya *et al.* 2014; Al-Ajam & Nor 2015).

Many previous research-based studies (Berry 2006; Agboola 2008; Weber & Kauffman 2011; Luka & Frank 2012; Saranya *et al.* 2014; Ismail 2015) point out that the adopted modern e-banking ICT systems are meant to improve: the productivity of their employees; competitiveness; strategic advantage of core business processes, quality and convenience of customer service. Dubios, Bobillier-Chaumon and Retour (2011) claim that the e-banking technology systems allow customers to act and directly interact

with the online banking resources thereby removing direct contacts between the banking employees and their customers. However, it is prudent that banks adjust themselves to customers' new preferences for ICT-driven products and use ICT developments to reconfigure or even reinvent relationship banking (Jaksic & Maric 2015).

Other research-based studies (Rohmetra 2010; Munjuri 2011; Weber & Kauffman 2011; Luka & Frank 2012; Nzuve & Omolo, 2012; Mai 2012; Saranya *et al.* 2014; Robinson 2017) agree that embracing banking ICT systems among banking employees brings unprecedented benefits. The banking ICT systems:

- Help the employees of retail banks improve their efficiency and effectiveness when offering services to customers;
- Enhance business processes, managerial decision making, and workgroup collaborations, which in turn strengthen their competitive positions in a rapidly emerging and changing economy;
- Help banks process data faster and efficiently, freeing the banking employees from mundane processing of tasks;
- Enable division and allocation of both local and global labour through the coordination of work via the internet;
- Improve scale size in terms of the reach and range across the networks for the global communication as well as supporting global replication of standard processes;
- Provide a platform for accountability, monitoring and evaluation of economic, organisational and the activities of the human resource management (HRM) including the training of employees also known as a human resource development (HRD).

Thus, the survival of retail banks in the environment of the rapid adoption of ICT systems depends on their capacity to maintain techno-savvy employees (Seraphim 2010; Mai 2012; Robinson 2017). In a large survey conducted by the Forrester Research Inc., covering organisations in the Americas, Europe and Asia, the

researchers found that banks spend about 7.3% of their revenues on information technology (IT) compared to an average of 3.7% across all other industries surveyed (Mai 2012). In the same study, banks appeared to spend a big share of ICT systems budgets on outsourcing IT skilled personnel (Mai 2012). The current researcher believes that such high spending on the ICT systems skilled personnel can be minimised by empirically investigating the factors that support the banking employees' learning of the adopted ICT systems before attending a learning programme.

1.2.2 Kenyan retail banking industry

Kenya is a developing country situated in the eastern region of Africa. A developing country is defined as a nation with low standards of living, underdeveloped industrial base and low human development index (Nielsen 2011; World Economic Outlook 2012; IUGG 2015). However, the country may have the potential to transform economically and become developed (World Economic Outlook 2012). A developed country, in comparison, is a nation whose economic systems are based on continuous, self-sustaining economic growth in the tertiary and quaternary sectors of the economy (i.e. strong industrial base) and high material standards of living (Nielsen 2011). The proposed study will draw its definition of a developing country from the International Monetary Fund's (IMF) classification of countries based on their level of development (Nielsen 2011; IUGG 2015). The Kenyan economic development policies anticipate a full transition from a decade of decline to a free market economy with an almost unlimited pool of banking employees compared to most of the other African countries (Walumbwa, Orwa, Wang & Lawler 2005; Wesutsa 2012; IUGG 2015). Thus this study will consider Kenya as a developing country.

According to the Central Bank of Kenya (CBK), the Kenyan banking industry comprises of 43 commercial banks which offer retail banking products and services (CBK 2012; CBK 2016). Essvale (2010), Munjuri (2011) and Wesutsa (2012) distinguish a retail bank from a commercial bank by stating that the former transacts banking products and

services directly with the consumer customers, while the latter not only offers retail banking products and services to consumer customers but also receives deposits and lends money to corporations and other banks. The proposed study will adopt this distinction and will use the figure 43 as the total number of retail banks in Kenya. The researcher will seek responses of employees in some of the main retail banks' branches to determine their level of agreement with the factors that support their learning of the adopted banking ICT systems. The results of the study will be used to formulate relevant recommendations regarding the factors that support the retail banking employees' learning of the adopted banking ICT systems.

It should be noted that the retail banks in Kenya may be locally-owned or foreign-owned or owned by joint ventures. These retail banks also differ in size and years of operation (Munjuri 2011; Wesutsa 2012). About 19% of locally-owned retail banks are widely distributed throughout the country and over 63% of these have deeply penetrated into the rural regions of the country (Dupas *et al.* 2012). The retail banks' branches found in the rural regions include the Kenya commercial bank (KCB), the Barclays bank, the National bank, the Equity bank and the Co-operative bank (Wesutsa 2012). This study will consider these retail banks' branches because their operations are well established almost everywhere in Kenya and their retail branches have embraced the e-banking systems over the past years.

A recent CBK report indicates that there is a steady increase in the use of e-banking technology systems such as ATMs, electronic funds transfer, direct bill payments, credit card, mobile and online banking (CBK 2016). In the year 2015, the Kenyan electronic payment and settlement system grew at an annual rate of 50% (CBK 2016). This growth was attributed to the increased awareness by both the retail banking employees and customers that the e-banking method was a safe and efficient mode of payment (CBK 2016). In a study done within the Kenyan commercial banks by Wesutsa (2012), it was found that the banking ICT systems would deepen the liquidity of commercial banks in existing markets by reducing the over-reliance on a narrow base of depositors for

funding. This banking ICT adoption increased efficiency in the operations as a whole in commercial banks in emerging markets and developing countries such as Kenya.

However, some studies (Abukhzam & Lee 2010; Munjuri 2011; Dupas *et al.* 2012) have established that adopting the modern e-banking technology systems for economic growth and development does not automatically translate to a rapid growth in the return on the investment. Wanyama and Mutsotso (2010) observe that despite adopting modern banking ICT systems, most of the retail banks especially those that are based at the rural areas of Kenya have recorded a decline in profitability, service delivery, effectiveness and customer satisfaction. They attribute this phenomenon to the lack of effective employees' learning at the banks. Ramavhona and Mokwena (2016) concur with Wanyama and Mutsotso (2010) by attributing such decline in profitability, service delivery and customer satisfaction to the perceived insecurity, complexity and a lack of training e-banking users on the internet banking in South African rural areas.

According to Gikandi and Bloor (2010) and Wesutsa (2012), the retail banks and other financial institutions in Kenya have adopted e-banking technologies in their efforts to cut costs, while maintaining reliable customer service and satisfaction. Results of surveys done on customer satisfaction and loyalty have indicated that customer service variables (such as satisfaction and loyalty) positively depend on the banking employees' competence in the adopted banking ICT systems (Wanyama & Mutsotso 2010; Mai 2012). However, the anticipated customer service variables have not been realised in their full potential in the Kenyan retail banking industry (Wanyama & Mutsotso 2010). This is due to the incompetence amongst employees regarding the use of the adopted banking ICT systems and hence the need to implement appropriate learning programmes at the workplace before undergoing training (Wanyama & Mutsotso 2010; Mai 2012).

Although an "automatic teller machine (ATM)" banking is one of the earliest and widely adopted retail e-banking services in Kenya (Nyangosi, Arora & Sing 2009), the CBK report reveals that its adoption and usage has been surpassed by mobile banking (m-banking) in the last few years (CBK 2012). This is because the ATM banking method

requires more specialised customer-assisted e-skills than the m-banking (Gikandi & Bloor 2010). The decline in the usage of the ATM banking shows an inherent scarcity of knowledge and skills among the banking employees, to fully exploit the innovative e-banking systems (Kumar, Kumar & Saini 2007; Bayo-Mariones & Lera-Lopez 2007; Dupas *et al.* 2012; Ndung'u 2012). Maldeni and Jayasena (2009) posit that most experienced bankers in Sri Lanka are more interested in acquiring traditional and not modern banking ICT systems skills. Furthermore, Abukhzam and Lee (2010) postulate that if innovative learning opportunities are not carefully embraced, the retail banking employees will continue to prefer the paper-based branch services.

As part of the mitigating measures against this decline in the banking performance, the Governor of the CBK has challenged the Human Resource (HR) directors and managers of the various retail banks in Kenya to formulate human capacity development programmes of the required ICT competencies (Ndung'u 2012). This comes at a time when both the Kenyan central and retail banks have invested heavily in a multi-generational workforce. The older generation (approximately aged at least 40 years) comes with more experience but lower technological skills, while the younger generation (approximately aged below 40 years) comes with modern technological skills but less working experience. This situation calls for conceptualisation of the individual employee factors that support the retail banking employees' learning at the workplace (Yueh, Chen, Chiu & Lin 2013).

Hartmann and Light (2010) as well as Seraphim (2010) argue that achieving the benefits of adopting e-banking technologies requires that the banking employees continue to learn the adopted banking ICT systems. Maldeni and Jayasena (2009) as supported by Wanyama and Mutsotso (2010) suggest that banking employees (managers and subordinates) ought to be sufficiently motivated to learn the adopted banking ICT systems' skills if an improved banking performance needs to be realised. Wanyama and Mutsotso (2010) conclude that when human capacity building programmes are reinforced at all facets of learning (i.e. before, during and after a

learning programme), the productivity of employees at the workplace can be increased significantly.

1.2.3 Banking employees' learning of the banking ICT systems

Garavan *et al.* (2012) define learning as "the acquisition of knowledge and skills by an individual and/or organisation in order to increase their competitiveness and survival". They continue to argue that effective learning is achieved through the implementation of effective HRD interventions such as education, competencies, values, attitudes and attainment of experience. Gold, Holden, Griggs and Kyriakidou (2010) add that the effectiveness of learning is exhibited by learners who can demonstrate new knowledge and skills gained during the learning process.

Effective learning of the adopted technology systems may begin with the identification of the factors that affect the employees' learning at the workplace (Munjuri 2011; Ndung'u 2012). To enable the creation of an effective learning environment, the learning factors should be examined before (i.e. informal) and/or during (i.e. formal) learning programmes as well as the conventional learning transfers after a training programme has occurred (Mitchell & Livingstone 2002; Yau & Cheng 2011). Knowledge Jump (2014) explains that a formal learning environment is where the training or learning department or organisation sets the learning objectives and goals, while an informal learning environment is where the trainee or learner sets the objectives and goals. In other words, learning is defined as formal or informal not because of the formality of the content and delivery but because of who controls the direction of the learning objectives and goals.

Rohmetra (2010) stresses that the contemporary retail banking industry needs efficient, polite and enthusiastic skilled banking employees capable of developing close contacts with their retail customers. These features are particularly important with retail banking branches in rural areas where banking business opportunities for growth are still untapped (Nzuve & Omolo 2012). Munjuri (2011) and Weber and Kauffman (2011)

emphasise that learning the banking ICT systems equips banking employees with the knowledge and skills in the adopted technologies so that more retail customers can be assisted faster and efficiently. Luka and Frank (2012) concur with these views and assert that the learning of banking ICT systems among retail banking employees enables them to offer a broad variety of financial products and services to the customers. Retail banking employees may become competent in coordinating retail banking branch activities and adaptive to demands and competition of the workforce market.

The learning of banking ICT systems is strategic for improving banking performance but it also incurs many challenging factors (Ongori & Migiro 2010; Abukhzam & Lee 2010; Gikandi & Bloor 2010). These include the misconception by most banking employees that such systems are modern ways of taking up their positions, thus they are not motivated to learn them (Kumar *et al.* 2007; Ongori & Migiro 2010). The diverse learning needs and requirements of the multi-generational workforce (i.e. employees with diverse experience and techno-savvyness) and those of multi-skilled employees (i.e. personnel with complementary abilities) create opportunities for more sophisticated learning interventions (Gikandi & Bloor 2010; Ndung'u 2012). In support of these views, Schuchmann and Seufert (2015) address the question of how the learning functions promote the improvement of the banking organisations' learning and innovation ability in times of digital transformation. In answering this question, the authors focus on the design levels of individuals, teams, and the organisation in banks. They also suggest a conceptual model for managing organisational learning for continuous innovation based on the kind of services a learning function needs to improve or integrate for supporting and designing a learning organisation (Schuchmann & Seufert 2015). Froehlich, Segers and Van den Bossche (2014) explain a learning organisation as a concept of how individuals in an organisation create, organise and transform knowledge into part of the knowledge system in the group.

1.2.4 Factors that affect employees' learning

Sambrook (2002) proposes a framework of factors, classified as organisational, functional, individual employee and ICT learning materials that can affect workplace learning as shown in Figure 1.1.

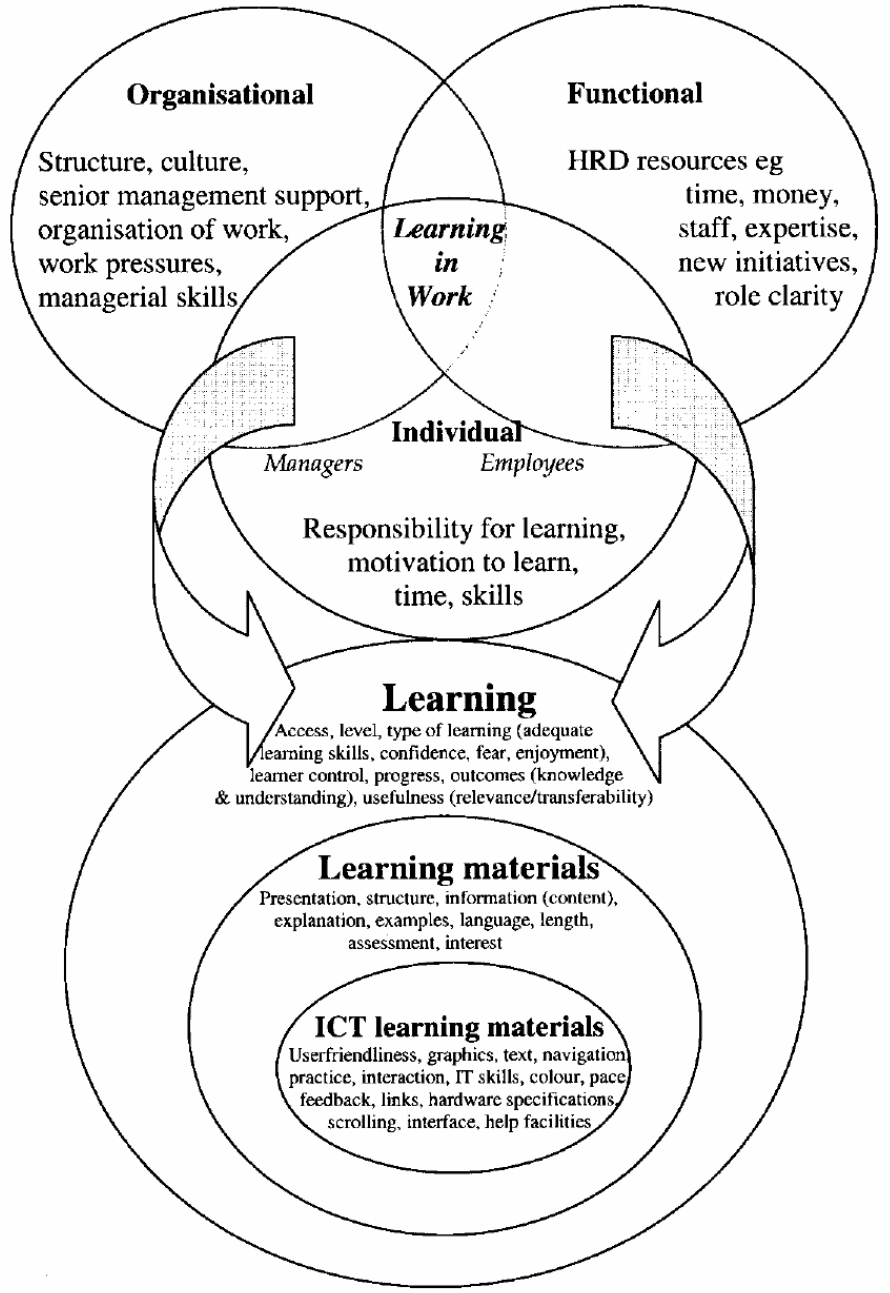


Figure 1.1: A holistic framework for factors affecting learning in workplaces (Sambrook 2002).

To develop the framework, she compares two research studies. The first one was conducted across the European region and the second one was conducted in the United Kingdom (UK). The project conducted across the European region investigated the role played by the HRD professionals in supporting lifelong learning. Through in-depth interviews with 44 employees drawn from different organisations in Europe, Sambrook (2002) illustrated with the aid of an HRD framework that learning factors attributed to the individual employee (i.e. responsibility for learning, motivation to learn and time), the organisation (structure, culture, management support and work pressures) and functional HRD resources (time, money, staff and expertise) were very important in the process of transferring learning (i.e. aided by ICT learning materials) to the workplace. The transfer of learning entails "the application of knowledge, skills and attitudes learned during a learning session afterwards in the workplace" (Nikandrou, Brinia & Bereri 2009).

The project done at the North Wales area in the UK explored perceptions of employees on the quality of computer-based learning as an electronic learning (e-learning) system utilised in the workplace. The study was done on 159 respondents with a wide range of age and experience. It targeted recent graduates working in small and medium scale enterprises (SMEs) or engaged in vocational training. Sambrook (2002) found that although computer-based resources provide learning opportunities which are flexible, affordable and accessible, the quality of the ICT materials affected learning at the workplace. When the quality of ICT materials were seen to be user-friendly, having colourful graphics and text balance, easy to navigate, and were human computer interactive, they were deemed to support effective learning at the workplace (Sambrook 2002).

Sambrook's (2002) project conducted across Europe focused on factors that support the transfer of learning in large learning-oriented organisations. The UK project also focused on the quality of ICT-based learning materials. The two projects were conducted in European (developed) countries. In addition, Sambrook's (2002) model focused on the transfer of learning (after training). In their study, Wanyama and

Mutsotso (2010) identified some of the factors that negatively affect the learning of the Kenyan retail banking employees at the workplace. These factors included: weak supervision, inadequate expertise and irrelevant knowledge and skills.

Precipitated by the findings from Sambrook (2002) and a confirmation by Wanyama and Mutsotso (2010) about key factors that affect the employees' learning at the workplace, this study seeks to empirically identify the factors (grouped under individual employee, organisational and ICT systems) that support the retail banking employees' learning of the adopted banking ICT systems before attending training. The empirical study will be conducted in the retail banking industry in Kenya (a developing country). The findings of the study will then be used to give relevant recommendations regarding how these factors should be addressed to enhance the learning of the adopted ICT systems. The researcher concurs with the view of Abukhzam and Lee (2010) and argue that by identifying the factors that affect learning and knowing the strategies that can address the factors that do not support learning, individual employees and their organisations can deal with the psychological fear and modern conspiracies that e-banking systems are ploys to replace the role of retail banking employees.

Furthermore, the topic under study has been sparked by the researcher's understanding of banking ICT systems' adoption and personal experience while working in one of the retail banks in Kenya. The researcher observed that certain individual employee factors (e.g. the lack of motivation to learn, the low self-efficacy and the poor time management); certain organisational factors (e.g. the poor managerial and peer support, the lack of rewards and recognition as well as certain job characteristics); and certain ICT systems factors (e.g. the poor quality, the weak security and the lack of usefulness of the ICT systems), could hinder the employees' learning of the adopted retail banking ICT systems at the workplace.

Section 1.2 has introduced the factors that are perceived to influence learning at the workplace. In this study, the main individual employee factors that affect learning will

include the motivation, self-efficacy, time management and attitude. The organisational factors will include the learning culture, social support, reward and recognition, and job characteristics. The ICT systems factors will include the perceived systems quality, ease of use, usefulness and security. The next section (Section 1.3) formulates the research problem statement which discusses the research gap motivating the study.

1.3 PROBLEM STATEMENT/PURPOSE OF THE RESEARCH

In a number of related literature reviewed (Raina 2007; Agboola 2008; Abukhzam & Lee 2010; Dubios *et al.* 2011; Dupas *et al*. 2012; Ramavhona & Mokwena 2016), the focus has been on determining the factors that support the adoption of the banking ICT systems after attending training in the African and the rest of the world's banking industry. Some researchers including Baldwin and Ford (1988), Nikandrou *et al.* (2009) and Barnard (2013) presented barriers to learning transfer, i.e. after learning programmes have taken place.

Furthermore, previous studies have shown that over 40% of global retail banks invest heavily (over 55% of total banking process costs) on outsourcing skilled banking employees to effectively operate banking ICT systems (Mai 2012; Roth 2013; Dochy, Gijbels, Segers & Van den Bossche 2014). Such investment has partly been justified by the lack of effective learning practices before the employees attend training at the workplaces (Sambrook 2002; Yueh *et al.* 2013; Ramavhona & Mokwena 2016). In response to these shortcomings in the skills gap within the retail banks, the retail banking employees from mainly developing countries ought to have effective learning practices regarding the adopted banking ICT systems. The goal should be focused on improving their productivity and global competitiveness, while minimising the overreliance on outsourced ICT skilled personnel (Ongori & Migiro 2010; Gikandi & Bloor 2010; Weber & Kauffman 2011 and Luka & Frank 2012).

To the best knowledge of the researcher, none of the related literature investigated factors that support employees' learning of the retail banking ICT systems before

employees attend training both in and outside Kenyan banking industry contexts. Moreover, no known previous studies determined the level of agreement regarding the factors, as perceived by the employees in the Kenyan retail banks, which affect their learning of the adopted banking ICT systems before undergoing training. In this study, the researcher grouped these factors as individual employee, organisational and ICT systems.

To address the research gaps mentioned above, this study has identified and empirically investigated the individual employee, organisational and ICT systems factors in order to determine the extent to which these factors support the employees' learning of the adopted Kenyan retail banking ICT systems before undergoing training. The intention is to improve the employees' learning and consequently the effective use of the adopted banking ICT systems before they undergo training. The study will also determine strategies that could optimally address the individual employee, organisational and ICT systems based factors that do not support learning.

The information on the possible hindering factors may assist both the organisations and individual employees such as retail banking tellers, customer care consultants and their line managers to devise optimal solutions before attending formal training programmes.

1.4 RESEARCH QUESTIONS

In order to address the research problem statement, the following primary research question will be answered in this study:

- Which individual employee, organisational and ICT systems based factors can be identified and empirically investigated in order to determine the extent to which these factors support the employees' learning of the adopted Kenyan retail banking ICT systems before undergoing training?

This primary research question is further divided into the following sub-research questions:

1.4.1 Research question for the literature study

How does the literature conceptualise the individual employee, organisational and ICT systems based factors that affect the employees' learning of the adopted ICT systems at the workplace?

1.4.2 Research questions for the empirical study

- What is the level of agreement regarding each of the individual employee, organisational and ICT systems based factors, as perceived by the respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) in the Kenyan retail banks, which affect their learning of the adopted banking ICT systems before undergoing training? (Research question 1).
- What is the level of agreement regarding each of the strategy factors as perceived by the respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) in the Kenyan retail banks that can optimally address the factors that affect their learning of the adopted banking ICT systems before undergoing training? (Research question 2).
- What is the linear relationship between the individual employee, organisational, ICT systems and strategy factors for each respondent group (the tellers and customer care consultants as the first group and the line managers as the second group) in the Kenyan retail banks? (Research question 3).
- Do statistically significant differences exist between the two respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) with regard to their level of agreement on each of the individual employee, organisational and ICT systems based factors that affect their learning of

the adopted banking ICT systems before undergoing training? (Research question 4).

- Do statistically significant differences exist between the two respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) with regard to their level of agreement on each of the strategy factors that can optimally address the factors that affect their learning of the adopted banking ICT systems before undergoing training? (Research question 5).
- Do statistically significant differences exist between the categories defined for each demographic variable (gender, age, highest level of education, highest qualification in ICT, job position, employment status, experience with the banking ICT systems and the number of training programmes attended before) with regard to each of the individual employee, organisational and ICT systems based factors for each respondent group (the tellers and customer care consultants as the first group and the line managers as the second group)? (Research question 6).
- Do statistically significant differences exist between the categories defined for each demographic variable (gender, age, highest level of education, highest qualification in ICT, job position, employment status, experience with the banking ICT systems and the number of training programmes attended before) with regard to each of the strategy factors for each respondent group (the tellers and customer care consultants as the first group and the line managers as the second group)? (Research question 7).

These research questions provide the direction for the study and guide the formulation of the primary and secondary research objectives in Section 1.5.

1.5 PRIMARY AND SECONDARY OBJECTIVES OF THE RESEARCH

The primary objective of this study is to identify and empirically investigate the individual employee, organisational and ICT systems based factors in order to determine the extent to which these factors support the employees' learning of the adopted Kenyan

retail banking ICT systems before undergoing training. The secondary objectives of the study are categorised in terms of the literature study and empirical study.

1.5.1 Objective of the literature study

In order to achieve the defined primary objective of the research, the objective of the literature study is to:

- Conceptualise the individual employee, organisational and ICT systems based factors that affect the employees' learning of the adopted ICT systems at the workplace.

1.5.2 Secondary objectives of the empirical study

Moreover, secondary objectives of the empirical study are to:

- Determine the level of agreement regarding each of the individual employee, organisational and ICT systems based factors, as perceived by the respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) in the Kenyan retail banks, which affect their learning of the adopted banking ICT systems before undergoing training. (Research objective 1).
- Determine the level of agreement regarding each of the strategy factors as perceived by the respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) in the Kenyan retail banks that can optimally address the factors that affect their learning of the adopted banking ICT systems before undergoing training. (Research objective 2).
- Determine the linear relationship between the individual employee, organisational, ICT systems and strategy factors for each respondent group (the tellers and customer care consultants as the first group and the line managers as the second group) in the Kenyan retail banks. (Research objective 3).

- Investigate whether statistically significant differences exist between the two respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) with regard to their level of agreement on each of the individual employee, organisational and ICT systems based factors that affect their learning of the adopted banking ICT systems before undergoing training. (Research objective 4).
- Investigate whether statistically significant differences exist between the two respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) with regard to their level of agreement on each of the strategy factors that can optimally address the factors that affect their learning of the adopted banking ICT systems before undergoing training. (Research objective 5).
- Investigate whether statistically significant differences exist between the categories defined for each demographic variable (gender, age, highest level of education, highest qualification in ICT, job position, employment status, experience with the banking ICT systems and the number of training programmes attended before) with regard to each of the individual employee, organisational and ICT systems based factors for each respondent group (the tellers and customer care consultants as the first group and the line managers as the second group). (Research objective 6).
- Investigate whether statistically significant differences exist between the categories defined for each demographic variable (gender, age, highest level of education, highest qualification in ICT, position, employment status, experience with the banking ICT systems and the number of training programmes attended before) with regard to each of the strategy factors for each respondent group (the tellers and customer care consultants as the first group and the line managers as the second group). (Research objective 7).

1.6 META-THEORETICAL STATEMENTS OF THE RESEARCH STUDY

A meta-theory is a theory whose subject matter contains some theory (Smith 2014). All fields of research share some meta-theory and the meta-theoretical framework

constitutes a clear boundary of the research study and spells out the specific approach that is being pursued in the interpretation of the research results (Van Wyk 2016). The meta-theoretical statements of this research involve the literature review and the empirical study within the disciplinary contexts of the Human Resource Management (HRM) and Human Resource Development (HRD) in ICT systems as fields of applications (Korte 2012). The concept of Human Resource Management depicts a philosophy of managing people for a sustained organisational success (Ismail 2015). This implies that HRM is a process of creating, implementing and evaluating policies and practices for acquiring, developing and engaging a large number of employees to work for a given organisation (Garavan *et al.* 2012). The field of HRD deals with the training offered to employees by their employer for the improvement of their knowledge, skills and abilities to effectively perform assigned duties (Garavan, Morley, Gunnigle & Collins 2001). As a new capital for both individual and organisations, HRD in ICT corresponds to one of the dimensions of intellectual capital and consists of education, competencies, values, attitudes and experience components in the ICT knowledge domains (Garavan *et al.* 2012).

1.6.1 Literature review

The literature review in this study has been discussed from the viewpoint of learning and development practices in the workplace. The researcher will rely on the theoretical framework proposed by Sambrook (2002) in order to classify the identified factors as the individual employee, organisational and ICT systems based factors that affect the employees' learning at the workplace. The conceptualisation of the individual employee, organisational and ICT systems based factors in the literature that affect the employees' learning of the adopted ICT systems at the workplace will be discussed. In this study, the literature sources will be drawn from a wide collection of databases or search engines including but not limited to EBSCohost eBook collection on career improvement and professional, electronic books and online resources, handbook for workplace learning professionals and blind peer reviewed articles in scientific journals. The

keywords are the employees' learning of banking ICT systems, organisational behaviour retail banking industry, transformative learning and workplace learning.

1.6.2 Empirical research-based paradigm

An empirical research-based paradigm is guided by a research philosophy (Odhiambo 2015). Becker (1996); Hussey and Hussey (1997); Easterby-Smith, Thorpe and Jackson (2008); and Saunders, Lewis and Thornhill (2009) defined a research philosophy as the process in which knowledge is understood and developed. In the literature, the research philosophies have been discussed within the context of a number of terminologies, namely the epistemology, ontology, axiology, doxology and quantitative-qualitative dichotomy (Ritchie & Lewis 2003; Easterby-Smith *et al.* 2008; Saunders *et al.* 2009). Epistemology is acquired when the ideas, perceptions or views of the researcher translate into knowledge. On the other hand, ontology is how the researcher experiences and perceives herself in the world (Odhiambo 2015). Axiology is the rationalising of a researcher's opinion regarding the research study processes in the study (De Bruyn 2014), whereas doxology is the belief that the researcher has about something. The above are embedded in the research approaches.

Researchers follow approaches that categorise them into either positivists (positivism) or naturalists (interpretivism) (Easterby-Smith *et al.* 2008; Saunders *et al.* 2009; Odhiambo 2015). The difference between the positivists and naturalists is seen in the assumptions they hold about what is significant to study? What should be known? What kind of the research tools and designs are appropriate? What standards should one apply to make an opinion on the quality of the research?

In this study, the empirical research will focus on the domain of the positivistic research approach. This is due to the nature of the research questions under investigation and the epistemological inclinations of the researcher. The researcher believes that reality is external to an individual and is based on natural laws and that meaning is also external and independent of the understanding of an individual. The positivistic approach is

based in science which is about changing things that people believe in (doxology) to things that people know (epistemology) (Becker 1996; Hussey & Hussey 1997; Easterby-Smith *et al.* 2008; Saunders *et al*. 2009). The research does not allow the act of observation to have an effect on the data being observed. The objective of this approach provides the understanding of the environment so that the observation may be foreseen and managed (Kim 2013).

The researcher will use quantitative tools and techniques to get concrete and tangible measures of the research variables (factors that affect employees' learning of banking ICT systems before attending training). This data will also be used to describe the way in which the respondents differ regarding such research variables. The quantitative approach is seen as objective and relates to independent conditions with regard to the researcher's thoughts and noticeable to all observers at a specific point in time (Salkind 2012a; Ismail 2015).

1.7 SIGNIFICANCE OF THE STUDY

The results of this research study will contribute to the academic body of knowledge in the field of learning and development in ICT. For instance, the results and recommendations of the study will assist the banking tellers, customer care consultants and line managers to identify the specific factors that affect their learning of banking ICT systems before attending training. The study results and recommendations will also assist retail banking employees from other departments in the bank to identify and analyse the factors that support their learning of the adopted banking ICT systems before learning programmes are conducted. The departments in the bank include the Customer Service, Cash, Accounts, Clearing, Human Resource, Loans and Advances, ICT as well as Sales and Marketing. The study expects that when factors that affect learning of banking ICT systems before undergoing training are identified, appropriate HRD interventions should be devised promptly by both the employees and the banking organisations in order to realise an improved performance.

The recommendations can also be incorporated in the strategies suggested by the Kenyan Institute of Bankers (KIB 2014) to support employee learning of the adopted banking ICT systems. KIB is a professional association for banks and financial institutions in Kenya that is mandated to promote professional education through the coordination and provision of advanced knowledge and qualifications in the banking and financial services sector.

The results and recommendations of this study may succeed in promoting the employees' learning of the adopted ICT systems in the workplace. This could assist the banking industry to achieve its ICT adoption objectives (practical significance). The results and recommendations could also be applied to similar work environment (practical significance). The study will develop two questionnaires for the tellers and customer care consultants as well as for the line managers for the retail banking industry (methodological significance).

1.8 RESEARCH DESIGN

According to Rugg and Petre (2007), Mbhalati (2010) and Vosloo (2014), research designs are approaches that are used to answer the research problem and questions, rather than approaches that exist in splendid isolations. In other words, the research designs refer to the overall strategies chosen to integrate the different components of the study such as data collection, measurements and analysis in a coherent and logical fashion for the purposes of effectively addressing the research problem (Saunders *et al.* 2012).

In this study, a quantitative research design will be used in the empirical study. This type of research design has a number of characteristics including the ability to study a large number of a population; generalise a research finding when it has been replicated on many different populations and sub-populations; or generalise a research finding when the data are based on a sufficient size of random samples (Creswell 2014). It is also useful in testing and validating already constructed theories about how and why

phenomena occur as well as testing the hypotheses that are constructed before the data are collected (Creswell 2014; Collis & Hussey 2014). The researcher will then follow a deductive research design approach. This is because the deductive approach requires the researcher to focus on facts, look for fundamental laws, reduce a phenomenon to simplest elements and move from theory to data (Easterby-Smith *et al.* 2008; Abbott & McKinney 2013). The deductive research design and its associated epistemology as well as ontology lead to the research strategy, which involves a unique scope and particular procedures for the achievement of the research purpose (Saunders *et al.* 2012).

1.8.1 Type of the research

Quantitative research is a process in which numerical data is used to gather information (Shadish, Cook & Campbell 2002; Williams 2005; Salkind 2012a; Abbott & McKinney 2013). Quantitative research designs use questionnaires to seek responses from a large number of respondents compared to the qualitative research designs that use personal interviews to seek responses from a small number of participants (Dane 2011; Jackson 2011; Salkind 2012a; Ismail 2015). The data is self-reported by the respondents. The information obtained from the representative sample may be generalised to the whole population.

Thus, the quantitative research design fits well when studying a large population (Salkind 2012a). This means that the feedback from the sample of respondents is counted quantitatively, analysed statistically and generalised to the whole population. Descriptive and inferential statistical analyses will be applied to process the data in this study. In descriptive statistics, the information received from a particular sample is described and summarised (Salkind 2012a; Abbott & McKinney 2013). Inferential statistics are applied in a study to firstly analyse the research questions then secondly draw inferences from the data obtained from the sample and finally use probabilities to generalise data for a specific population (Coetzee & Schreuder 2011; Salkind 2012a).

1.8.2 Unit of analysis

In a scientific research based study, the unit of analysis refers to the major entity that is being analysed in a study. In regard to social science research, the unit of analysis describes the 'what' or 'who' that is being studied and typically it includes individuals (most common), groups, social organisations and social artefacts (Van Wyk 2016). In this study the unit of analysis will be the individual tellers, customer care consultants and line managers working in the Kenyan retail banking sector.

1.8.3 Population and sample sizes

According to Groves, Fowler, Couper, Lepkowski, Singer and Tourangeau (2009) as well as Verschuren and Doorewaard (2010), the target population (N) refers to all people or items with the characteristics on which one wishes to undertake a statistical study. Sampling entails the selection of a subset of items from within a target population in order to estimate characteristics of the whole target population. A sample is defined as a portion of the items in a population (Dane 2011:107). Dane (2011) asserts that depending on the population size, focused research is usually done on a sample rather than a very large population size. The proposed study will use the method of stratified random sampling to decide the target sample of respondents. The stratified random sampling approach requires that each item of the population in each of the strata should have an equal probability of being included in the sample (Ismail 2015). Purposive and convenience sampling method will be used to decide on the region to be targeted.

Therefore, the target population (N) of the research comprises 450 retail bank tellers, 180 customer care consultants and 270 line managers (where the tellers and customer care consultants will be considered as one stratum, and the line managers will be considered as another stratum) from 30 major retail bank branches located in selected counties of western Kenya. In each major retail branch, an average of ten employees of

the target strata are hosted (CBK 2014). This implies that a total of 300 employees of the target strata will form the study sample (n). Taking it into account a desired sample size, it was deemed sufficient to sample one out of every three branches for each of the five banks in the six counties. These branches were selected randomly as stated in section 3.5.2. Thus, this sample will be a third of the target population (i.e., N= 900 and n = 300). That is, 150 retail bank tellers, 60 customer care consultants and 90 line managers were proportionately selected using a defined inclusion criteria and the ratio 5:2:3 from 30 main retail bank branches of the five main banks in the focused counties. The target sample of respondents will be requested to complete and submit a survey questionnaire addressed to them.

Next section 1.8.4 refers to and discusses the questionnaires as data instrument.

1.8.4 Data instrument

The researcher will develop two paper-based questionnaires, one for the tellers and customer care consultants and the other one for the line managers. The tellers and customer care consultants work at the front office and their work involves a direct interaction with the retail banking customers. The line managers are responsible for indicating the learning needs drawn from their sub-ordinate staff members such as the tellers and customer care consultants. The two questionnaires for the chosen two groups were developed using several literature studies about individual employees, organisational and ICT systems learning factors (Sambrook 2002; Luka & Frank 2012; Yoo, Han & Huang 2012; Barnard 2013; Makeketa 2013).

The developed questionnaires were used as the data instruments for gathering quantitative field data. Well-defined questionnaires should collect accurate and reliable information (Awases 2006). The questionnaires will collect data about the level of agreement perceived with the statements regarding each of the factors of the individual employee, retail banking organisation and ICT systems, by the retail banking employees

(the tellers, customer care consultants and line managers) to support their learning of the adopted Kenyan retail banking ICT systems before undergoing training.

1.8.5 Validity and reliability

Validity relates to cohesion between the theoretical framework methods, research questions and findings (Wisker 2008; Verschuren & Doorewaard 2010; Deniz & Alsaffar 2013). Validity of an instrument defines "the degree to which an instrument measures what it is supposed to be measuring" (Awases 2006:115). Shuttleworth (2016) provides definitions of the two most relevant types of validity, namely content and construct validity. Content validity is "the estimate of how much a measure represents every single element of a construct", while construct validity defines "the extent to which a test or experiment measures a characteristic or behaviour of a phenomenon that it claims to test or measure". For example, if a test was designed to measure high blood pressure, such a test must only measure high blood pressure and not closely related ideals such as anxiety or stress (Shuttleworth 2016). Content validity of this study was performed on the researcher's newly developed and experts' (two HR academics and the statistician) approved questionnaires. Factor analysis will be used to determine construct validity (Jackson 2011).

Reliability relates to how well the research has been carried out (Wisker 2008; Shuttleworth 2016). This study will test and report on the reliability (internal consistency) of each identified factor (set of items) by means of the Cronbach's Alpha statistics found in the literature (Jackson 2011).

Section 1.8 has discussed the research design aspects of the study, namely the type of research, the research variables, the unit of analysis, the population and sample, the data instrument, the validity and reliability. The next Section 1.9 describes the research method consisting of the data collection phases and procedures (such as the pilot and main study as well as procedure for data analysis).

1.9 RESEARCH METHOD

A research method refers to the process and instruments used in conducting research operations such as making observations, gathering and recording data as well as techniques of processing data (Dane 2011; Salkind 2012a; Shuttleworth 2016). This study will employ a quantitative survey research method that systematically entails a pilot and main study followed by data analyses. The quantitative survey research method will use two questionnaires: one for tellers and customer care consultants and the other for line managers as data gathering instruments. Two questionnaires will gather data demonstrating the level of agreement regarding each of the individual employee, organisational and ICT systems based factors, as perceived by the respondent groups (tellers and customer care consultants as one group and the line managers as the second group) in the Kenyan retail banks. The researcher will distribute the questionnaires to the target respondents using a secure and speed mail service with return postage stamps. It will gather data regarding biographical information of the respondents and organisational information. This data will be gathered after seeking the consent of the respondents. The questionnaire will also ask the respondents to evaluate the factors and indicate their level of agreement with the factors.

1.9.1 Pilot study

A pilot study is “a small scale preliminary study undertaken to evaluate the feasibility of time, cost, adverse events as well as the statistical variability of the proposed study”. The pilot study is meant to predict an appropriate sample size and improve upon the study design prior to the performance of a full-scale research project (Buys 2012). In this study, the pilot study targeted two banking tellers, two banking customer care consultants and two bank line managers from three randomly selected retail branches. This meant that 18 respondents participated in the pilot study. The pilot study tested the

research instrument (the questionnaires) and was done before the main empirical study was conducted. The results of the pilot study will not be included in the results of the main study.

1.9.2 Main study

The main study involved the deployment of the questionnaires to a large-scale sample of target groups (150 banking tellers, 60 customer care consultant and 90 line managers) in 30 branches of the retail banks in the western region of Kenya. The entire exercise of the deployment of the questionnaire, participation of respondents and the collection of data was estimated to take between 30 and 60 days to complete before data analysis was performed. In this study, the data from the main study form the data for the whole study considered.

1.9.3 Analysis of data

The analysis of data is the process which entails inspecting, cleaning, transforming, and modelling data with the goal of highlighting useful information, suggesting conclusions, and supporting decision making (Awases 2006; Motulsky 2010). The data analysis in the proposed study will include, performing a quality control check for any error, and data analysis through a series of statistical tests. The software package for social sciences (hereafter, SPSS) and Microsoft Excel package are usually employed for data analysis (Lesame 2008). This study will use SPSSv23 (SPSS2016) and Microsoft Excel package to analyse the data.

The research question of the study that refers to “which individual employee, organisational and ICT systems based factors can be identified and empirically investigated in order to determine the extent to which these factors support the employees’ learning of the adopted Kenyan retail banking ICT systems before undergoing training?”, will be analysed using appropriate statistical tests.

1.10 DEFINITION OF TERMS AND KEY CONCEPTS

This section provides definitions of terms and key concepts relevant to this study. The definitions clarify and contextualise the meaning of the terms that will often be referred to in the study. The key concepts and their definitions are as follows:

1.10.1 Banking information and communication technology (ICT) systems: Ongori and Migiro (2010) and Mai (2012) define ICT systems as "a range of software, hardware, telecommunication and information management technologies, applications and devices that are used to create, produce, process, package, distribute, retrieve, store, and transform information". The banking ICT systems or electronic banking (e-banking) systems include the products and services such as the servers, desktop computers, laptops, handheld devices, wireless intranet, businesses productivity software comprising of text editors and spreadsheets, enterprise software, data storage and network security that integrate e-banking technologies (Ashrafi & Murtaza 2008; Mai 2012; Saranya, Anitha and Vasantha 2014). Such e-banking technologies include the Tele-banking, ATMs, home banking and Internet banking.

1.10.2 Factor: Is defined by the Oxford dictionary as a variable or an element or part or component or circumstance or an influence that contributes to a result or an outcome. In this study, factors will refer to variables that describe the individual employee, organisational and ICT systems characteristics that can affect the employees' workplace learning outcomes (Caudill 2015).

1.10.3 Learning: This term refers to the knowledge and skills acquisition (Garavan *et al.* 2012). In this study, employees' learning will refer to the definition of the workplace learning by Cacciattolo (2015), which is the acquisition of the knowledge, skills, attitudes and abilities through an informal or formal self-study, experience or being taught in order to effectively perform assigned duties (Cacciattolo 2015). According to Hartmann and Light (2010), organisations must not only learn or increase their knowledge and skills but should also help their employees to transfer what has been learnt (Barnard 2013). The study will solicit perceived factors that support the retail banking employees' learning of the adopted banking ICT systems before undergoing a formal training.

1.10.4 Retail bank: It is a financial institution that offers monetary products and services directly to its retail customers (Gikandi & Bloor 2010; Essvale 2010; Wetsutsa 2012; Maduku 2013). In this study, retail banking includes product deposits, mortgage loans for residential properties, credit cards, vehicle finance, personal loans, consumer durable loans, loans against equity shares and investment advisory services. The study will be about the retail banking industry in Kenya.

1.11 SCOPE OF THE RESEARCH

The research focuses on identifying and investigating the perceived key factors (individual employee, organisational and ICT systems) that support learning in the Kenyan retail banking industry. The study will also determine strategies for addressing the possible factors that may negatively affect learning of the adopted banking ICT systems. The study targets banking tellers, customer care consultants and line managers working in retail banks in the western region of Kenya. This region is purposively selected as a representative study region of similar regions in other parts of Kenya in which the banking services are situated in towns and a majority of customers who reside from remote villages and rural areas should be able to access such bank services. Thus, effective use of banking ICT systems among banking employees is likely to improve efficiency of the banking service delivery to their customers and hence improve productivity.

The region under focus consists of six counties, namely Nyamira, Kisii, Migori, Homabay, Kisumu, and Siaya. In these counties, the branches of the retail banks are located in towns and most banking customers are compelled to travel from the villages to the towns for banking services. The cost of travelling to the retail banking branches by customers for services is more prohibitive than to access such services via banking technologies at their convenient locations (Dupas *et al.* 2012). In the villages, there are only two local options: “village banks”, owned by share-holding villagers affiliated with microfinance organisations, and partial-service branches (essentially sales and

information offices with ATMs) for major retail banks (Dupas *et al.* 2012). The study is limited to those retail bank branches in the towns because of a wide range of retail banking technologies available, allowing this researcher to collect sufficient data from a representative sample of retail banking employees.

However, the study does not target the “village banks”, non-retail banks such as the large commercial and investment banks (Essvale 2010), and other categories of banking employees who are not involved with the transactions of retail products and services via the adopted banking ICT systems.

This study has its limitations, delimitations and assumptions that are presented in Section 1.12.

1.12 THE LIMITATIONS, DELIMITATIONS AND ASSUMPTIONS OF THE STUDY

The first limitation of the study is that some regional and branch managers may not grant permission for the study to be conducted in their retail banks. This was addressed by sending letters requesting permission from these senior banking representatives well in advance clearly stating the purpose, benefits of the study and how the confidential information will be handled between the researcher, the learning institution (UNISA) and the concerned retail banks.

The second limitation could be that not all questions in the questionnaire may be interpreted to be clear and relevant by the respondents. This was addressed by ensuring that during the construction of the survey questionnaire, all items, questions or statements are clear, unambiguous, and elicit intended data. The researcher applied the philosophy of ontology (i.e. about what statements really are) and epistemology (i.e. about the way statements are known in reality) to construct statements in the questionnaire seeking responses for perceived factors supporting learning at the

workplace. Anderson (2013), and Denzin and Lincoln (2011:91-227) define ontologies as the ways of viewing reality, “how things really work” and they also depict epistemologies as the different forms of knowledge of that reality. In addition, three experts (the supervisor, the advisor and the statistician) in questionnaire designs were requested to check the quality of statements. A pilot study was also employed to manage and minimise this limitation.

The third limitation is that the researcher administered the paper-based questionnaires through the branch managers as the gate keepers who requested the respondents to fetch the questionnaires in special letter boxes placed at the reception office in the branches. Such limitation exposes delay risks in the data gathering period and the responses may also be subjected to bias due to the psychological relationships between the target employees and their branch managers. This limitation may be managed by requesting the branch managers to place the research materials at a specific location where the respondents can freely pick up and return the completed questionnaires.

Fourthly, the questionnaires may not be completed by the targeted respondents only. Other employees may collect, complete and return the questionnaires from/to the special letter boxes. This limitation has been minimised by the researcher in the design of the questionnaires in which a question on the job position of the respondents has been included.

Finally, the research data was drawn from banking employees in a particular region in Kenya; hence the findings may not be generalised to retail banks in other regions. Though, the study targeted a sample of the retail banking staff in the western region branches, the recruitment of this workforce occurs at the head office. Thus, most retail banks across the country face similar challenges of scarcity in ICT skills (Dupas *et al.* 2012). Based on this situation, the researcher expected that the findings of the study may be replicated elsewhere in the country. Moreover, the study was limited to retail

bank branches in the countryside and not head offices, large commercial and investment banks whose core business functions are not directly linked to retail customers.

Ways to address the foreseen limitations of the study have been given. The researcher assumes that there was sufficient time, funds and computer technology resources to successfully undertake this study. It is also assumed that the targeted banks were easily accessible. For the purposes of empirically investigating the factors that support learning of the adopted banking ICT systems, the study assumes that various branches of different retail banks had deployed similar banking ICT systems.

The delimitation of the study is that it will not cover the transfer of learning discussed by the existing literature including Barnard (2013). Neither will it cover the factors that affect the adoption of banking ICT systems. This has been comprehensively covered in previous studies (Weber & Kauffman 2011; Luka & Frank 2012).

1.13 ETHICAL CONSIDERATIONS

This study adhered to Ball's (2012) fundamental principles that guide ethical considerations for conducting research. In particular, the study ensured that:

- the information provided by respondents remains anonymous and confidential;
- the respondents are not coerced into participating in the study, only those who grant their consent;
- the respondents are fully informed about the aims, methods and benefits of the research;
- any violation of privacy is avoided;
- there is sufficient protection of respondents against physical and physiological harm;
- the reporting of study findings is done objectively; and

- the respondents have the right to withdraw from the study at any time during the data gathering period.

In this study, careful measures were taken to ensure that the study did not deviate from the UNISA research ethics policy. First, ethical approval was secured before conducting the pilot study or the empirical part of the main study. This was achieved by completing an ethical approval form issued to the researcher by the academic supervisor. The form was then forwarded to the Human Resource Management (HRM) Departmental Research and Ethics Committee and in turn to the College of Economics and Management Science (CEMS) Ethics Review Committee at the institution (UNISA). The CEMS Ethics Review Committee issued an ethical clearance approval and certificate to the researcher.

The permission letter was included in the ethics documents when applying for ethics clearance. The researcher contacted and sent an electronic mail to the branch managers of the selected retail banks, requesting permission to conduct the study in their bank branches. In the mail, the objectives of the study were conveyed and a request to provide the researcher with email and/or work addresses of the target group was made. Only branches that accepted the researcher's request to conduct the study in their organisations were considered.

Ethics will be discussed in more detail in Section 3.9. The next section (Section 1.14) presents the layout of the Chapters.

1.14 LAYOUT OF THE CHAPTERS

The chapters of the dissertation are laid out as follows:

Chapter 1: **Introduction.** This chapter consists of the background and overview of the study. It covers the study focus area, namely the identification of main factors which support learning, the problem statement, research questions, aim and objectives. These research aspects concern the factors attributed to the individual employee, organisational and ICT systems' characteristics that support the learning of retail banking ICT systems before learning programmes. It presents the limitations and assumptions of the study. The overall layout of the chapters is also provided in this chapter.

Chapter 2: **Literature study**. In this chapter, the details of factors attributed to the individual employee, organisational and ICT systems characteristics related to the research problem under investigation are discussed. This is achieved through a systematic analysis and synthesis of the previous and current literature with a focus on such factors that support the employees' learning (before learning programmes) of the adopted banking ICT systems.

Chapter 3: **Research methodology.** This chapter describes in detail the quantitative research design and research method. It describes the approach and process of data collection, analysis and reporting of the collected data. Specifically, the proposed study uses a survey to gather field data that answer the question, "which are the main factors, as perceived by the target groups in retail banks in the western region that support the learning of banking ICT systems?" This chapter describes the sample selection criteria, main target respondents (the tellers, customer care consultants and line managers), and the process of authorisation from the banking authorities. The process of the distribution, administration and collection of the questionnaires to and from the target respondents are also furnished.

Chapter 4: **Descriptive statistics, factor analyses and discussions of results.** This chapter reports and discusses the demographic profile of respondents, the level of agreement between respondent groups (the tellers and customer care consultants as one group and the line managers as the second group) on each of the individual employee, organisational and ICT systems based factors that support learning in the Kenyan retail banks. The chapter further provides the construct validity and reliability:

exploratory factor analysis. The chapter also presents the descriptive statistics to determine frequency distributions of the identified constructs.

Chapter 5: **Inferential statistical analysis and discussions of the results.** Chapter 5 reports on the correlation analysis to determine the relationship between the identified factors for each respondent group. The chapter 5 also presents results from the tests for statistical significant mean differences between the categories defined for each demographic variable with regard to the individual employee, organisational and ICT systems based factors for each respondent group. The chapter also reports on and discusses the results from the tests for statistical significant mean differences between the categories defined for each demographic variable with regard to the strategy factors for each respondent group.

Chapter 6: **Conclusions and recommendations**. This chapter concludes the dissertation by reporting on the results and conclusions. Future research areas will also be recommended to other researchers for possible consideration.

1.15 SUMMARY

Chapter 1 discussed the background and overview of the problem statement and the research questions on the identification of the main factors (i.e. individual employee, organisational and ICT systems attributes) that support the learning of retail banking ICT systems before conducting learning programmes. The primary and secondary objectives of the research, the significance and scope of the research, namely the learning of the banking ICT systems amongst retail banking employees in bank branches from the western region in Kenya. The chapter also outlined briefly the research methodology, namely the quantitative research design and the procedure for undertaking an empirical study aligned to the proposed study. Finally, the study limitations and assumptions, and the layout of the dissertation were presented.

Chapter 2 will discuss the literature study and elaborate on the factors that support the learning of retail banking ICT systems before conducting learning programmes. These

factors will be classified into individual employee based factors (such as motivation, self-efficacy, time management and attitude), organisational based factors (such as learning culture, social support, reward and recognition and job characteristics) and ICT systems factors (such as the perceived systems quality, perceived ease of use, perceived usefulness and perceived security). The chapter 2 will also provide strategies that have been suggested in the literature to overcome factors that may not support learning at the workplaces, particularly in the retail banking sector.

CHAPTER 2 : INDIVIDUAL EMPLOYEE, ORGANISATIONAL AND ICT SYSTEMS BASED LEARNING FACTORS

2.1 INTRODUCTION

In Chapter 1, the statement of the research problem, the primary and secondary objectives of the research, the meta-theoretical statements, the significance, the methodology, definition of key concepts, the scope of the study and the layout of the chapters were outlined.

In Chapter 2, the researcher reviews the existing literature in order to conceptualise and identify the individual employee, organisational and ICT systems based factors which can support the employees' learning of the adopted workplace ICT systems. The individual employee factors include motivation, self-efficacy, time management and attitude. The organisational factors comprise the learning culture, social support, reward and recognition, and job characteristics, while the ICT systems factors consist of the perceived systems quality, ease of use, usefulness and security. Chapter 2 also outlines strategies which have been provided in the literature to address the factors that do not support the employees' learning of the adopted workplace ICT systems before training.

2.2 INDIVIDUAL EMPLOYEE BASED LEARNING FACTORS

In the previous research studies, individual employee learning factors such as prior work experiences, educational background, knowledge, skills and attitudes towards the adopted system, time to learn new innovations and self-discipline have been identified (Billet 2006; Evans, Hodkinson, Rainbird & Unwin 2006; Gustavsson 2012; Kyndt, Vermeire & Cabus 2016). Baldwin and Ford (1988) as well as Pineda-Herrero, Quesada-Pallares, Mas, Espona and Garcia (2012); Haller (2014); and Alqurashi (2016) asserted further that a motivation to learn, a strong self-efficacy, good time management and the right attitude towards learning new innovations are some of the key individual employee

learning factors that can support workplace learning. In this section 2.2, the researcher discusses such individual employees' factors in detail.

2.2.1 Motivation

Haller (2014) and Buchanan *et al.* (2016) described motivation as a psychological force that energises, directs and sustains a person's effort towards the achievement of a goal. A person who is not stimulated or inspired to act is thus characterised as unmotivated; someone who is energised or activated toward an end goal is considered motivated (Hoffman 2016). Hoffman (2016) defined motivation as the degree of effort and intensity to which a goal related to learning or performance is directed. Haller (2014) further expatiated on motivation as "internal and external factors that kindled the desire and energy in individuals to be continually interested in and devoted to a job, role or subject, or to make an effort that leads to an attainment of a goal". In other words, motivation directs employees' behaviour towards the achievement of organisational goals such as better customer services, improved productivity (Dar *et al.* 2014). On the other hand, Law, Lee and Yu (2010) defined motivation as "the extent to which persistent efforts were directed towards a workplace goal". Thus, a motivation to learn can be understood as the extent to which a persistent effort is put by a learner towards a learning goal (Law *et al.* 2010; Hoffman 2016).

The definitions of the motivation to learn by Law *et al*. (2010) and Hoffman (2016) can be considered as one of the main factors that support the learning of the banking ICT systems. This is in the sense that a motivation to learn plays a mediating role in the relationship between the future-oriented training and development programmes and the perceived performance (Dar *et al*. 2014). Thus a motivation to learn can inspire employees to attend the training programmes when perceived to improve their workplace performance.

Chen and Chih (2011) as well as Yoo, Han and Huang (2012) contended that the motivation to learn indicates how human stimulated needs drive individuals to act and

meet those needs through learning. Thus, a learning motivation creates a process that initiates, guides and maintains goal-oriented learning behaviours amongst workplace employees (Hoffman 2016). Moreover, according to Law *et al.* (2010) and Haller (2014), motivation to learn could be measured when divided into two classes, namely the intrinsic and extrinsic factors. Thus sections 2.2.1.1 and 2.2.1.2 provide a detailed discussion on the intrinsic and extrinsic motivation to the workplace learning.

2.2.1.1 Intrinsic motivation

The intrinsic motivation (IM) refers to the motive to do something due to the inherent satisfaction or the users' behaviour for its own sake such as being interesting or enjoyable or engaging or exciting or optimally challenging. This class of motivation focuses on individuals' autonomy rather than the environmental setting (Law *et al.* 2010; Yoo *et al.* 2012). According to the Michigan State University (2017), an intrinsic motivation is described as an energising of behaviour that emerges from within an individual, out of free will and personal interest for the activity at hand. No external rewards other than the behaviour itself are necessary to incite the intrinsically motivated person into action.

Domenech-Betoret and Gomez-Artiga (2014) expounded on the three components of IM outlined by Vallerand, Pelletier, Blais, Briere, Senecal and Vallieres (1992). These include the IM to know or accomplish or experience stimulation. The IM to know refers to concepts such as the curiosity, the motivation to learn and the carrying out of "an activity for the pleasure that a person experiences, while learning, exploring, or trying to understand something new" (Vallerand *et al.* 1992). On the other hand, the IM to accomplish can be defined as the engagement in an activity for the pleasure and satisfaction that is experienced when trying to overcome it or reach a new level. Lastly, the IM to experience stimulation refers to when individuals engage in an activity for the fun of it, or to feel positive and stimulated about their own dedication to that activity (Vallerand *et al.* 1992; Domenech-Betoret & Gomez-Artiga 2014).

2.2.1.2 Extrinsic motivation

Extrinsic motivation (EM) refers to the act of doing something that leads to an outcome of a high value such as improved job performance, pay or promotions (Yoo *et al*. 2012; Rodriguez & Purdy 2015). Extrinsic motivators include anything related to the workplace or environment such as promised rewards and recognition, praise, clear direction or deadlines (*Law et al.* 2010). Conti (2015) concurs with Law *et al.* (2010) by describing an extrinsic motivation as an individual behaviour of doing something because of external factors, such as rewards, social recognition or fear of punishment. This kind of motivation focuses people on rewards rather than action. As depicted in Figure 2.1, Law *et al.* (2010), Yoo *et al.* (2012) and Conti (2015) revealed that performance expectancy, social influence, and facilitating conditions are the extrinsic motivators for workplace learning.

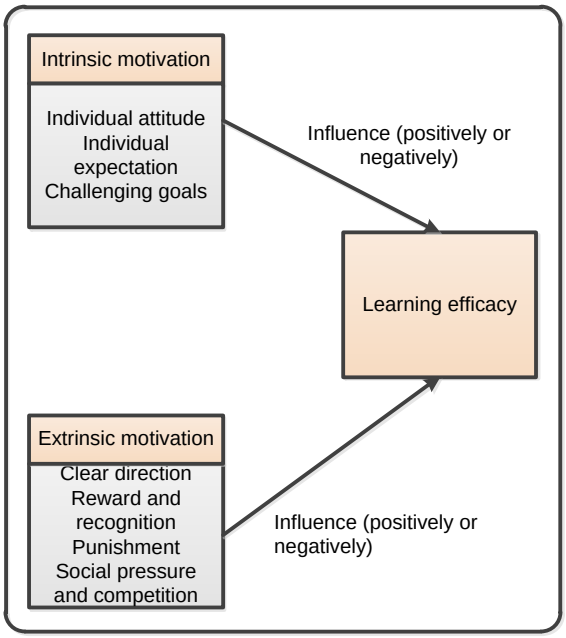


Figure 2.1: Influence of motivation to learn on the workplace learning efficacy (Law *et al.* 2010).

An organisation needs to create an environment where learning opportunities prevail to enhance their employees' motivation to learn before training takes place (Law *et al*. 2010; Schulze & Van Heerden 2015). Learning opportunities like simulation, gaming,

project-based learning and e-learning will likely help to capture the attention, spark the curiosity, creativity, and enthusiasm of the employees to learn (Yoo *et al*. 2012; NRC/GT 2014). Such an environment should adopt informal learning programmes to complement the formal training (Kyndt, Vermeire & Cabus 2016). Moreover, opportunities like promoting and rewarding expertise or unleashing the power of experts through sharing and making the information available to others should be encouraged.

Some previous researchers have observed that employees who are motivated to learn cope well with workplace technological changes through flexible and self-directed learning (SDL) in the workplace (Gijbels, Raemdonck, Vervecken & Herck 2012). By definition, SDL is a relatively stable tendency of taking an active and self-initiated approach to pursue learning as well as persisting in overcoming learning barriers at the workplace (Seibert, Kraimer & Crant 2001). Self-directed employees are able to identify learning opportunities, show learning initiatives, undertake learning activities and persevere in overcoming barriers to learn as opposed to those without the orientation (Knowles 1975; Gijbels *et al*. 2012; Holt & Brockett 2012).

In their study, Chen and Kao (2012) applied motivation factors in e-learning systems in several Taiwan retail banks, government and high technology manufacturers. They found that the employees' motivation to learn was reflected by their learning needs and strengths, perceived usefulness and satisfaction gained with the e-learning systems (Chen & Chih 2011). Chen and Kao (2012) noted that the absence of both intrinsic and extrinsic motivation to learn inhibited learning and employees' productivity. These researchers suggested that organisations should understand the employees' based factors such as expectation and challenging goals in order to provide a clear direction, reward and recognition to those employees who learn on their own (or informally) before undergoing training. Such understanding will further help organisations foster attributes of the motivation to learn amongst their employees at the workplace (Chen & Kao 2012).

In another study that investigated the motivation to learn among young people who were not in education, employment or training organisations, the Department for Business

Innovation and Skills (DBIS 2013) in the United Kingdom reported that some young people struggled with a lack of intrinsic motivation to engage in learning programmes. They attributed the situation to the lack of self-direction, self-efficacy and poor previous learning experiences (DBIS 2013). This attribution stemmed from the study conducted by Hatfield (2007) which confirmed that strong motivation, self-direction, self-efficacy and prior knowledge and skills about the adopted workplace ICT systems promoted successful learning among employees.

The preceding studies discussed seem to imply that employees who lack motivation to learn are not able to: develop further their ICT skills; show new learning initiatives; undertake further learning activities and persevere in overcoming barriers to learn as opposed to those who are motivated to learn the adopted ICT skills. This lack of motivation may lead to poor work performance, low morale of the entire office holders, poor customer service, a decrease in revenue and an increase in staff turnover. Therefore, DBIS (2013) found that both intrinsic and extrinsic motivations are very important vehicles to enable the individual employees and the organisation at large to achieve their workplace goals.

In addressing the lack of a learning motivation at the workplace, Chen and Kao (2012) suggested that managers ought to create opportunities for employees to learn and transfer what has been learnt into their work routines. This can be achieved, for example, by building a learning foundation in which employees are eager to learn before training, and by creating a more relaxed working environment where the employees feel encouraged to learn on their own during worktime. Furthermore, managers need to acknowledge contributions emanating from the employees' learning before training, honour promises made to the employees regarding achieving own learning targets, offer career coaching and permit employees to attend training workshops paid for by the organisation (Chiaburu & Tekleab 2005). Aziz and Selamat (2016) found that the number of training designs and training reputation could significantly affect the motivation to learn and training effectiveness because the motivation to learn plays the role of a

mediator. Also, the familiarity with training content due to more previous training programs attended could affect training effectiveness.

Buchanan *et al*. (2016) add that explorations of proliferating learners' driven inquiry models which privilege learners' autonomy are likely to provide much needed knowledge for workplace employees concerned about effective learning practices in the modern times. This is because, the learners' driven inquiry models allow learners to have flexible opportunities for making determinations about the problems, challenges and issues they investigate in order to develop a meaningful engagement and a deeper learning. Embracing a greater autonomy is no doubt one of the effective tools to help students develop their knowledge and process skills as well as self-confidence (Buchanan *et al.* 2016).

2.2.2 Self-efficacy

According to Bandura (1997) and the theory of Social Learning as explained by Holt and Brockett (2012), self-efficacy is individuals' self-confidence in their ability to perform an action or behave in a certain way. It is the belief in individuals' own capabilities required to produce a given outcome (Kulviwat, Bruner & Neelankavil 2014; Alqurashi 2016). Bandura (1997) further explained that learners who feel competent (high academic self-efficacy) tend to experience great self-determination to learn unlike learners who feel apathy and disengaged in the workplace (Komarraju & Dial 2014). However, Asaad (2015) warns that overconfidence (or perceived self-confidence) with low factual financial knowledge among banking employees is likely to be financially risky. This is in the sense that possible financial handling errors are likely to be committed and omitted whenever self-confident employees pay more attention to their perceived financial knowledge competence at the expense of their actual financial knowledge competence. Thus, Asaad (2015) feels that the banking literacy should be aimed at balancing between the factual knowledge and achieving a healthy dose of confidence.

Law *et al.* (2010) and Alqurashi (2016) concurred with Bandura's (1997) description of self-efficacy when they mentioned that self-efficacy is not identical to motivation but they share several constructs. The shared constructs include goal setting, problem solving, test and domain-specific anxiety, reward contingencies, self-regulation, social comparisons, strategy training, varied academic performances across domains, other self-beliefs and expectancy (Law *et al*. 2010; Adediwura 2012; Alqurashi 2016). Moreover, self-efficacy is also different from self-esteem. This is because self-efficacy is individuals' assessment about their ability to do a certain task and succeed in doing it regardless of the odds they may face (Cho & Kim 2016). The confidence in their ability is motivated and dependent on the task at hand (Van Dort 2016). On the other hand, self-esteem is a permanent internal feeling. It is the opinion people have about themselves (Cho & Kim 2016).

Brown (2002) and Adediwura (2012) argued that self-efficacy influences thoughts, feelings and behaviours of an individual employee towards the use of technology. He further noted that employees who have self-efficacy attributes are seen to be more confident to learn new technology-related innovations than those who are not. Holt and Brockett (2012) added that computer self-efficacy is the belief that one can successfully use a computer as a technology to achieve a given outcome. Individuals' self-efficacy arises from their belief about knowing and acting (Billet 2009; Billet 2010). This belief has its foundations/roots on emotions. Shan (2012) agreed with the notion that "… all learning has an emotional basis," as claimed by Plato more than 2000 years ago. Shan (2012), Benozzo and Colley (2012), and Chien (2012) emphasised that emotions or feelings about something happens at different moments and levels of awareness.

Williams, Wissing, Rothmann and Temane (2010) examined the effect of self-efficacy, as a personal resource, to the work context (conceptualised as job demands and job resources) and psychological outcomes (conceptualised as psychological well-being and work engagement) in the South African public service context. From multiple regression analyses, the study showed that work contexts and the general self-efficacy significantly

predicted both psychological well-being (i.e. positive effect, negative effect and satisfaction with life) and engagement (i.e. vigour and dedication). Williams *et al.* (2010) also noted that the general self-efficacy moderates the relationship between work contexts characterised by preponderance of job resources and psychological outcomes (i.e. satisfaction with life and dedication). When a job is viewed by an employee to be less demanding and to have enough resources to perform it, the general self-efficacy of that employee will likely increase and the psychological well-being and work engagement will also improve (Williams *et al.* 2010). In such context, Kuo (2013) and Alqurashi (2016) noted that unless learners develop a sense of satisfaction in a learning class, a high level of teamwork may not necessarily translate into a high level of the workplace computer self-efficacy.

This implies that self-efficacy influences the tasks employees choose to learn and the goals they set for themselves (Alqurashi 2016). Self-efficacy also affects the employees' level of effort and persistence when learning difficult tasks. Employees with low self-efficacy are unable to recognise learning opportunities that come their way, show unwillingness to take risks due to the conviction that they will fail, are not willing to try anything without a guarantee of success, are not putting much effort to achieve their goals, hide their mistakes from others rather than learn from them (Kuo 2013).

To improve their self-efficacy, the employees need to; identify their areas of weakness and strategise on how to improve on them, observe how other employees successfully complete their tasks, deal with specific areas and focus on what they do well and reinforce it by praising themselves. Individual employees ought to align their learning needs to the fulfilment of their job obligations or expectations in order to improve on their own learning self-efficacy (Kuo 2013). Furthermore, the understanding of complex relationships between an academic identity, a self-efficacy, self-esteem and self-determined motivation and goals (learning and performance) among trainers may help improve learning motivation (Komarraju & Dial 2014). Moreover, Cho and Kim (2016) have noted that job self-efficacy, enthusiasm for learning, interest in one's vocation,

commitment to professionalism and an extroverted personality were the factors that enhanced informal learning.

In addition to the individual employees' initiated interventions with regard to improving their self-efficacy towards learning the adopted workplace ICT systems, managers and trainers also have a number of roles to play (Mohone, Heusdens, Oldani & Ware 2014). The managers and trainers should ensure that they gradually expose employees to moderately difficult ICT systems tasks from simpler tasks and they apply relevant peer learning models to train their employees. In addition, managers should capitalise on learners interests as a base point, allow trainees to make autonomous choices regarding the aspects of ICT systems they find interesting to learn, encourage learners to try their level best to achieve their learning goals, and finally give frequent and focused feedback and encourage accurate attributions among learners (Adediwura 2012; Mohone *et al*. 2014).

2.2.3 Time management

Time management for effective learning in the workplace is a set of habits or learnable behaviours that involve appropriate use of the available time in order to pursue learning activities (Marsick & Watkins 2015). Individual employees acquire appropriate time management behaviour through increased knowledge, training or deliberate practice (MacCann, Fogarty & Roberts 2012). Inappropriate time management practices such as not allocating sufficient time for work-related learning assignments; cramming for work related examinations and failing to meet deadlines set by the employer frequently result in stress and poor transfer of what is learnt to the workplace (MacCann *et al.* 2012). Therefore, Xu (2010) conceptualised the workplace time management as one important aspect of behaviour for self-regulation. Appropriate time management enables employees to plan, monitor and regulate the use of the workplace time (e.g. allocating time for different activities).

In her study regarding barriers to the distance based e-learning corporate training in a Greek retail banking sector, Seraphim (2010) examined time constraints as one of the main learning factors within retail banks. She found that the lack of time set aside for the banking employees to learn was a barrier at the workplace. Jarvensivu and Koski (2012) noted that most often the employers demanded the employees to create time and learn on their own in order to improve their efficiency and productivity. However, the employers did not permit study leave or reward their employees for own learning before training. These latter researchers observed that learning defined through work is an action that includes fairly strong norms and constraints.

Jarvensivu and Koski (2012) added that one central trend that negatively affects employees' autonomy to time management in the workplace is the blurring of the borders of work and free time. This means that working hours are not clearly separated from free time for learning and work tasks are performed flexibly in the middle of other life functions and vice versa. The sliding of work tasks into the employees' free time to undertake learning can also be interpreted as a tightened control by the employers. When work and free time get mixed up, the physical and symbolic borders of work organisations and work cultures shift or fade away. This means that the space of control exerted by management increases (Jarvensivu & Koski 2012).

Milligan, Margaryan and Littlejohn (2013) related time management and work experiences during a workplace transition by examining the learning needs and specialisation experiences of new and more experienced professionals. They discovered that time and performance pressures compel the more experienced employees to plan and manage less their learning time during the transition. Instead, the experienced employees are more opportunistic and bring their previous experience to meet the demands of their new roles. In addition, the study showed that newly recruited employees often get disillusioned quickly because of the limitations of time to pursue own learning and working during the major transition at the workplace (Seraphim 2010). Inappropriate time management practices like not allocating time for work related learning disables the employees to plan, monitor and regulate the use of the workplace

time. These practices may result in stress and poor learning transfers in the work place (Milligan *et al.* 2013).

It is thus pertinent that managers should allow an uninterrupted time formally reserved for the employees to undertake their work-related learning (Seraphim 2010). This can be achieved during the informal learning at the workplace or formal learning in training programmes. The employer ought to ensure that no work and free time get mixed, the physical and symbolic borders of work organisations and work cultures are made wide and that the space of time management or control exerted by management is decreased (Jarvensivu & Koski 2012). Organisations can also foster good time management for the employees by creating a more relaxed learning atmosphere to acquire the relevant ICT competencies (Leelakulthanit & Kini 2013). Career Success for Newbies (CSFN) (2014) added that employees in the workplace may enhance their time management for learning ICT systems by understanding their own roles and responsibilities, doing important and urgent tasks first, wasting no time in the in-between breaks, trying to do tasks right the first time and at the right time without procrastinations.

It is worth mentioning that the implication of inappropriate time management negatively affect workplace learning effectiveness before undergoing training. It can be suggested that the employers should deliberately allow time for their employees to learn the workplace ICT systems before attending a formal training programme. The employees should in turn take advantage of the allowed time to devote to the learning of the workplace ICT systems without undue procrastinations.

2.2.4 Attitude

Ajzen and Fishbein (1980:28) defined an attitude as '… an index of degree to which a person likes or dislikes an object'. Attitude differs with motivation in the sense that while, the former presents the extent of behavioural feeling towards an object, the latter is described by the level of stimulation or inspiration towards acting or behaving in a particular manner (Hoffman 2016). Thus, attitude is the way a person thinks, feels and

behaves towards something (Simon 2014). Al-Ajam and Nor (2015) concur with this definition of attitude as an extent to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question. Right attitude towards learning of banking ICT positively affects employees' intention to learn the technology (Al-Ajam & Nor, 2015). Beliefs about an object lead to an attitude about it and this attitude leads to behavioural intentions regarding the object. Thus, an attitude towards a computer affects users' behavioural intentions, which also affects their actual usage of the computers (Ho & Kuo 2010).

Triandis (1979) and Simon (2014) described an attitude as an individual's positive or negative behaviour towards an adopted innovation. Triandis (1979) further stated that attitude portrays the perceptions towards the usefulness of the electronic banking, adaptation features, bank electronic features, risk, privacy and personal preferences. The attitudes towards learning a new technology are characterised by the manner, feeling and/or position held by individuals toward the learning behaviour of a technology (Holt & Brockett 2012). This relationship can be understood through examining individual emotions and anxiety towards learning how to use computers or innovations (Benozzo & Colley 2012).

When employees are forced by the changing work environment to embrace a new way of thinking and performing things, they get a sense of anxiety. In addition, emotions can either positively colour learning if computer anxiety is extinct or negatively affect the learning of retail banking ICT systems if the computer anxiety is dormant, just like what a belief and an attitude can do (Billet 2009; Billet 2010). When employees encounter something that contradicts their current belief, the resulting emotion turns such a belief into a richer opportunity for learning (Benozzo & Colley 2012). Shan (2012) asserted that emotion learning is not solely psychological but also a power negotiation process that employers should leverage to overcome negative ICT anxiety and emotions that inhibit learning at the workplace.

According to Evans *et al.* (2006) and Billet (2010b), the disposition or tendency to learn ICT systems may contribute to the ability to recognise new learning opportunities. This in turn influences the attitudes and actions undertaken to learn in the workplace. Evans *et al.* (2006) also suggest that the development of positive attitudes and new knowledge creates an upward spiral that facilitates more learning and learning opportunities. On the other hand, negative attitudes inhibit learning when such attitude switches-off the learner's ability to recognise learning opportunities. The researchers also emphasised that workplace training stimulates the development of positive attitudes to learning and working thereby changing individuals' dispositions in a manner that develops their personal and professional identity.

Yang (2008) as well as Narmadha and Chamundeswari (2013) investigated how the individual attitude towards learning, sharing and storing information influences their knowledge sharing in an organisation. The study results showed that individual attitudes to learn and share significantly impacted on the knowledge sharing. In a sense that, when an individual attitude bore a disposition to learn and share new information, others from the organisation would become aware of such information and knowledge would accrue. The implication is that workplace line managers should help their employees to learn and share knowledge. This practice can enhance organisational performance (Yang 2008).

Longworth (2013) explored how attitude affects the learning and transfer of skills taught to student midwives in the skills laboratory environment and clinical practice. The results of the study indicated that the facilitating factors for positive attitudes include having adequate instructions, designated space and opportunities to practice skills, support and feedback from the mentors. The preceding literature implies that a negative attitude towards learning may be as a result of the employees not being given permission to participate in learning programmes. Presumably, the employees can also develop a negative attitude towards learning the adopted ICT systems when they perceive that it will threaten their job security. A study conducted by Rigotti *et al*. (2009) proved that

attitudes of employees to the learning of the adopted ICT systems were linked to whether they were on the temporary or permanent employment status. This was because the employees on temporary employment status experienced higher job insecurity and less promises on future employment prospects than their counterparts on permanent.

Brown (2002) argued that since anxiety is related to attitude, conducting work-related induction programmes, especially for newly recruited employees can address anxiety, emotions and attitude problems in the workplace. In order to create a positive attitude among learners, Longworth (2013) recommended that educators and mentors should provide adequate learning support and feedback to promote knowledge and skills competency in what they learn. Ho and Kuo (2010) added that fostering computer confidence and promoting its usefulness through: advertising useful functions and advantages of e-learning, providing well-trained tutors in facilitating the use of computers, giving recognition or encouragement to the employees who complete e-learning courses promotes a positive attitude to learn. Billet (2010) advises that managers should encourage their employees to have the disposition to learn, resulting in the ability to recognise new learning opportunities which in turn promotes positive attitudes towards the work-related learning.

Finally, Mackeracher (2003) advised organisations to stimulate a positive attitude among employees who show a low level of self-directed learning (SDL) through coaching. Other strategies to stimulate a positive attitude for learning banking ICT systems may include using technology to record reflections of learning or creating learning contracts including a variety of technologies used for learning resources, preparing reporting using new technologies (e.g. new forms of presentations) as opposed to traditional paper reports. These strategic goals will provide time for learning technology and to encourage the learner to include technological advancements on their own in future learning (Holt & Brockett 2012).

2.2.5 Summary

Section 2.2 discussed the individual employee based factors which can support workplace learning before undergoing training. The factors are motivation, self-efficacy, time management and attitude. The preceding discussions have implied that the motivation to learn the adopted ICT systems can act as a driver to the employees' aspiration to attend future oriented training and development programmes targeting an improvement in the workplace productivity. The reviewed research-based studies also affirmed that a self-efficacy was an influencer of thoughts, feelings and behaviours of an individual towards learning new technology related innovations such as the adopted workplace ICT systems. Furthermore, when an individual employee acquires appropriate time management behaviour through increased knowledge, training or deliberate practice, and the employee can plan, monitor and regulate the use of the workplace time (i.e. allocating time for different activities). The disposition or tendency to learn ICT systems may directly foster the ability of employees to recognise new learning opportunities at the workplace.

Suggested strategies from the literature addressing individual employee attributed factors that negatively affect workplace learning effectiveness have also been outlined. For example, a motivation to learn the adopted ICT systems happens when organisations build a learning foundation in which employees are eager to learn and when organisations create a more relaxed working environment where their employees feel encouraged to learn on their own during worktime. It is also important that managers and trainers gradually expose employees to moderately difficult ICT systems tasks from simpler tasks and they apply relevant peer learning models to train their employees so as to strengthen employees' self-efficacy. Moreover, an uninterrupted time should formally be reserved for the employees to undertake their work-related informal learning at the workplace. In addition, individual attitude towards learning the adopted ICT systems can be promoted through advertising useful functions and advantages of e-learning, providing well-trained tutors in facilitating the use of computers, giving recognition or encouragement to the employees who complete e-learning courses.

Section 2.3 presents workplace learning factors that are attributed to organisational practices.

2.3 ORGANISATIONAL BASED LEARNING FACTORS

In the recent past, a number of researchers claimed that a majority of factors that affect the learning of the adopted workplace ICT systems can be explained by certain organisational practices (Wanyama & Mutsosto 2010; Yau & Cheng 2011; Mitchell 2012). Mitchell (2012) adds that a poor learning workplace environment in the bank branches combined with the banks' adoption of formal training policies are at odds with the adult employees' preferred informal learning practices before undergoing a training programme. Nonetheless, key organised learning factors include the learning culture, social support (support from supervisors, teams and peers), reward and recognition and job characteristics (Yau & Cheng 2011; Mitchell 2012). Hence, sections 2.3.1 and 2.3.2 will deal with the discussions of these factors as posited in the literature.

2.3.1 Learning culture

According to Luthans and Avolio (2014), culture is defined as the acquired knowledge which people use to interpret experiences and generate social behaviour. Pawirosumarto, Sarjana and Gunawan (2017) studied the effect of organisational culture on job satisfaction and its implication towards the performance of the employees. The results showed that organisational culture had a positive and significant impact on job satisfaction and the performance of employees. Mavunga and Cross (2017) asserted that the culture of employee learning in a pedagogic domain influences the methods used in an organisation to impart knowledge and competencies to employees. Thus, a learning culture is a strategic learning approach in which managers make sure that their team of employees enjoy: a learning guidance in defining their learning objectives; career

development by creating learning opportunities and learning resources through offering more training and mentoring programmes (Meyer 2017).

Authors (OECD 2017) studied the workplace learning culture with regard to gender. They found that gender gaps in general ICT skills at work tended to be quite small worldwide. More males than female employees seemed to be cognisant that a learning culture affected their learning of ICT systems at the workplace (OECD 2017). As a result, cross-gender workplace learning culture can be achieved in many ways including self-education; skills training; allowing ample time to learn; encouraging and recognising learning through some form of an official record (Meyer 2017). In this sense, a learning culture may create either an expansive or restrictive environment in a learning organisation (Lee, Chu & Tseng 2011; Fuller & Unwin 2011).

2.3.1.1 The expansive and restrictive learning environments

A workplace learning culture and forms of participation are two features that aid learning in both expansive and restrictive learning environments (Meyer 2017; Unwin 2011). In an expansive learning environment (i.e. restrictive learning environment is the flip side of expansive learning environment), employees engage in multiple communities of practice, gain broad experience across the organisation, pursue both knowledge-based and competence-based qualifications, learn both on and off-the-job, have a recognised status as a learner and have access to career progression and extended job roles (Fuller & Unwin 2011). Therefore, the centre to either an expansive or restrictive learning environment is the relationship between line managers and their subordinates (Gold, Thorpe & Mumford 2010). While expansive conditions have the ability to create rich learning opportunities, restrictive conditions may generate setbacks to the workplace learning (Fuller & Unwin 2011).

Kerosuo and Toiviainen (2011) analysed a collaborative effort of expansive learning across boundaries in a regional learning network of South Savo, Finland. They claimed

that expansive transformation may be explored through the expansion of socio-spatial and instrumental boundaries. Kerosuo and Toiviainen (2011) argued that crossing the socio-spatial boundary of the workplace is needed to expand workplace learning and development in challenging and complex regional contexts.

Some researchers have argued that it was possible to have a co-existence of both expansive and restrictive learning environments for different employees in the same workplace (Felstead, Fuller, Jewson & Unwin 2009). This is because different employees might respond differently to similar conditions such as: the working environment, leadership, division of labour, competence development strategies and power relations (Gustavsson 2009). Williams (2008) explained that a proper workplace learning culture requires the employees of an organisation to make the continuous sharing of perceptions and expectations regarding learning as an important part of their everyday life. The organisational learning culture can thus be seen through the promotion of lifelong learning and experience that is passed from one generation of employees to the next (Hodgers & Luthans 1991).

2.3.1.2 Learning organisation

According to Garcia-Morales *et al.* (2007), and Froehlich, Segers and Van den Bossche (2014), a learning organisation is explained by how individuals in an organisation create, organise and transform knowledge into part of the knowledge system in the group. In Chahal and Bakshi (2015), it has been added that only a learning organisation which intends to improve constantly its intellectual capital can sustain competitive advantage. Moreover, the development of intellectual capital accelerates innovation which in turn raises the learning capability of people in an organisation (Chahal & Bakshi 2015). Organisations that value a continuous learning culture invest more in ICT systems so as to help their employees to learn quickly and efficiently (Lee, Chu & Tseng 2011). Kayinamura (2011) investigated the extent to which a growing retail bank in Zimbabwe is a learning organisation. The results of the study revealed that a learning organisation

should be flexible, creative, share and manage the acquired knowledge and its leadership must support growth and learning (Kamsaris & Trochana 2011).

In a study investigating the impact of practising a learning culture to an organisational performance in Kenyan commercial banks, Nzuve and Omolo (2012) established that most Kenyan commercial banks, had adopted practices such as ICT systems designed to inform and empower, formative accounting control, learning approach to strategy development, participative policy making, reward flexibility and supportive leadership. The study revealed that there was an inverse relationship between the practice of the learning organisation and organisational performance. Thus, embracing more systematic, definite and concrete steps towards a learning culture was pertinent for the banks to survive the onslaught of competitive forces in the global market (Nzuve & Omolo 2012; Froehlich, Segers & Van den Bossche 2014).

Based on the study by Nzuve and Omolo (2012), the researcher can deduce that a lack of a learning culture inhibits learning among the employees. This is because in workplace where there is no learning culture, employees are not guided to define their learning objectives nor allowed to make mistakes when learning innovative subjects like ICT systems before training. Schuchmann and Seufert (2015) add that a learning organisation at a banking workplace should promote the competencies development of managers who can then facilitate a continuous learning of direct reporting employees and teams in a more sustainable manner.

In addressing the lack of an organisational learning culture, Fuller and Unwin (2011) suggested that organisations should create a more expansive learning environment in which supportive leadership, division of labour and competence development strategies are encouraged (Antwi, Analoui & Cusworth 2007; Gustavsson 2009). Sambrook (2002) also suggested that organisations must be open to learning and the change of conventional HRD practices by making their employees (i.e. managers and subordinates) develop a sense of responsibility and creativity for the workplace learning activities.

In section 2.3.1, the workplace learning culture comprising of the expansive and restrictive learning environments as well as the learning organisation has been provided. Section 2.3.2 presents how the social support factor has been conceptualised in the literature with regard to its impact on the learning of the adopted ICT systems before training.

2.3.2 Social support

Filstad (2004) and Pinder (2016) report that a social support emanating from managers, teams and peers (Baldwin & Ford 1988) is an important source of new knowledge and learning interactions. The social support variable is said to be influential when employees believe that their supervisors and peers provide them with opportunities for practicing new skills and knowledge in their job setting (Baldwin & Ford 1988; Pinder 2016). Individuals, teams and the organisation acquire new or improve existing skills, competence and performance through the learning modes like having focused discussions with peers, receiving coaching from managers and facilitative processes (Hamlin & Stewart 2011; Froehlich, Segers & Van den Bossche 2014). Peers or managers support is often achieved through goal setting, vision sharing, giving assistance and feedback to their fellow learning employees at the workplace (Baharim 2009; Pinder 2016). In other words, peers or managers engage their colleagues in defining specific expected job goals that should be achieved during a specific period to demonstrate job productivity.

2.3.2.1 Managerial and peer support

According to Cromwell and Kolb (2004) and Abiud and Okiko (2012), many organisations invest time and money on management and supervisory training programmes. On the one hand, Cromwell and Kolb (2004) examined the correlation kind of relationships between four specific work-environment social factors (organisation support, supervisor support, peer support, and participation in a peer support network) and transfer of

training. On the other hand, Abiud and Okiko (2012) investigated the nexus between organisational culture and management support as an influence to the ICT adoption in the Rwandan commercial banks. The results from both studies showed that trainees who receive high levels of organisational, supervisor and peer support and also participate in a peer support network report higher levels of transfer of the knowledge and skills. In another research based study on the learner support in the workplace learning, Smith and Drago (2016) found that a continued involvement of supervisors, peers, mentors, and technical assistants can reduce learner attrition and help ensure employee progress in their workplace learning.

A similar study by Korpelainen and Kira (2010) found that the most commonly used workplace learning strategies for ICT systems are to try things out alone or together with peers, or to ask for help from peers. They concluded that understanding individual employees' specific learning intentions or goals determine the kind of learning support or strategy they need to achieve such goals. Hence, the goal towards learning ICT systems is best approached as a learning activity which is strongly rooted in collaboration and a social context (Korpelainen & Kira 2010). A study by Cheng, Wang, Yang, Kinshuk and Peng (2011) showed that there is a positive effect of perceived individual learning support and a perceived support for promoting a norm of cooperation on employees' intention to use the competency-based e-learning system.

According to Aderibigbe and Ajasa (2013), peer coaching as an institutionalised tool is indeed a collective effort to enhance professional development. Peer coaching involves a close, intimate relationship between the co-workers, whereby some act as the coaches and the others as the trainees (Baharim 2009). Furthermore, building on the fact that older employees have greater learning readiness than younger ones, HRD managers should consider instilling coaching behaviours in appropriate senior and managerial staff so that they are able to pass their learning readiness to their junior or support staff (Filstad 2004; Baharim 2009).

Lancaster, Milia and Cameron (2013) and Pinder (2016) suggested that supervisors must offer supportive behaviours by providing the employees with sufficient opportunities for training. These researchers added that the practical support range from supplying the employees with sufficient learning materials to sponsoring the costs of the learning programmes. Such a support indicates the value supervisors place on workplace training programmes (Broad & Newstrom 1992; Baharim 2009). Lancaster *et al.* (2013) also suggested that, it was helpful for the supervisors to hold a meeting with their employees soon after the course to discuss lessons learnt and challenges met during the training with a view to strategise how to deal with the challenges in future training opportunities.

2.3.2.2 Team learning

According to Sarin and McDermott (2003) and Lantz (2011), the leadership styles (the initiation of structure and consideration) are crucial in the workplace team learning. Initiation of structure is where the managers define roles and set goals for both the leader and subordinates (Martinez-Sanchez, Vela-Jimenez, Perez-Perez & de-Luis-Carnicer 2011; Doving & Martin-Rubio 2012) in order to focus the attention of team members and their energy on sharing useful information. Consideration on the other hand, is a leadership behaviour in which a leader looks into the team members' welfare and voices appreciation and support (Srivastava, Bartol & Locke 2006). This leadership style promotes a work climate of mutual trust, respect, psychological support, helpfulness and friendliness (Doving & Martin-Rubio 2012). This in turn facilitates the team learning process about knowledge sharing and joint reflection. While comparing the effects of an initiation of structure and consideration on the team learning effectiveness, Doving and Martin-Rubio (2012) found that a leadership style involving initiation of structure is more positively related to the team learning effectiveness and the considerate leadership style is more inclined towards the performance satisfaction of the employees.

Doving and Martin-Rubio (2012) extended the work done by Sarin and McDermott (2003) when they investigated how a team management affects the actual team learning process in a Spanish commercial bank. The study found that leadership behaviours (i.e.

consideration and initiation of structure) displayed by the team leader can facilitate the team learning effectiveness through promoting a work climate of mutual trust, respect and psychological support as well as ensuring that roles and tasks are defined clearly (Bucic, Robinson & Ramburuth 2010). Akgun, Lynn, Keskin and Dogan (2014) investigated the antecedents and consequences of team learning in information technology (IT) implementation projects. By investigating the IT implementation project teams, the researchers found that team behaviour and enabler variables, such as teamwork, team communication, interpersonal trust between team members, team commitment, and senior manager support, positively influence team learning. This implies that employees are motivated when their peers support them or when their managers show interest in their learning through clear definition of their employees' learning goals.

Thus, a team learning process should strongly be promoted by a good team leadership style (Lantz 2011). It has been discovered that a team leadership style characterised by both consideration and initiation of structure is positively related to team learning and consequently a successful work performance (Srivastava *et al.* 2006; Edmondson *et al.* 2007; Bucic *et al.* 2010). Therefore, managers should identify, tap and exploit skills diversity within the team to strengthen and promote effective team learning among the team members (Wang, Dou & Li 2011; Doving & Martin-Rubio 2012). In addition, managers and supervisors ought to support the formation of peer discussion and coaching mechanisms aligned to gaining new skills and competence in ICT systems (Hamlin & Stewart 2011; Lancaster *et al.* 2013; Aderigbe & Ajasa 2013).

2.3.3 Reward and recognition

Some of the previous research-based studies (Ballentine, McKenzie, Wysocki & Kepner 2012; Harrison 2013 and Murphy 2015) established that what employees appreciate more are concrete and tangible benefits, rewards or incentives that organisations offer to them when they participate in learning courses. These courses impact on their self-

development and their position in the bank (Seraphim 2010). The workplace rewards may include monetary and non-monetary incentives (Ballentine *et al.* 2012).

2.3.3.1 Monetary and non-monetary incentives for workplace learning

Monetary incentives are money-based rewards and may broadly include profit sharing, project bonuses, stock options and warrants, additional paid vacation time and scheduled bonuses (e.g. Christmas and performance-linked bonuses). Non-monetary incentives are opportunity-based rewards offered to the employees for excellent job or learning performance. They include opportunities for flexible work hours, training interventions, a pleasant work environment and sabbaticals (Ballentine *et al.* 2012). However, both Ballentine et *al.* (2012) and Murphy (2015) suggested that care should be taken to ensure that there is a balance between monetary and non-monetary incentives. Gneezy, Meier and Rey-Biel (2011) argued that incentives (monetary or non-monetary) have been seen to enable learning only when such incentives are well-specified and well-targeted in specific learning goals.

Apart from rewards, employees also appreciate the recognition of professional title/certifications acquired through workplace learning (Seraphim 2010). Harrison (2013) defined a recognition of an employee as a timely, informal or formal acknowledgement of an individual's or team's effort that supports the organisation's goals and values and which has clearly been beyond normal expectations. Maketeta (2013) defined recognition as the acknowledgement of knowledge and skills already acquired from work and/or life experiences or from a previous study. Both the research-based studies by Harrison (2013) and Maketeta (2013) found that individual employees or teams felt more engaged to undertake a deeper self-initiated workplace learning when their efforts were being acknowledged (i.e. in monetary or non-monetary terms) by their employers.

Berglund and Andersson (2012) asserted that workplace learning took place in many settings and in different ways, resulting in knowledge and skills of different kinds. They further advocated that employers should recognise and reward their employees who

acquired knowledge and skills from training provided by professional bodies, voluntary associations, enterprises, private educational institutions, trade unions and government agencies.

2.3.3.2 Recognition of workplace prior learning

Berglund and Andersson (2012), Snyman (2013) and Maketeta (2013) defined the recognition of prior learning (RPL) as an assessment process in which an organisation provides candidates with the opportunity to show case their knowledge and skills informally learnt before training at the workplace. According to Fejes and Andersson (2009), the RPL had gained traction as a method for assessing and evaluating a person's prior knowledge and skills before new training took place. This is because knowledge and skills that are developed and achieved in the workplace can be documented and evaluated through a more or less structured process (Werquin 2010). Berglund and Andersson (2012) further demonstrated that different organisations apply their own ways of assessing knowledge and skills. Certain skills are also made "unvisualised" for the employee. This employer-controlled recognition logic is important to understand when RPL models are brought to the workplace in order to obtain win-win situations for both employers and employees. From the research-based study about the RPL at the workplace, Maketeta (2013) found a number of learning gaps and challenges with the designated Eskom employees from the Northern region in South Africa. These learning gaps and challenges ranged from capacity building to quality assurance impeding the success of the RPL. Snyman (2013) alluded that the mission of RPL to bring about transformation could only become a reality if a learner-centred approach recognised and empowered the learner on a personal and academic level.

Some other researchers such as Fejes and Andersson (2009), Seraphim (2010) and Maketeta (2013) have agreed that non-recognition of prior learning and a lack of reward (such as monetary or non-monetary incentives) by the management for the informal learning on-the-job are likely to demoralise employees toward directing their own goals of learning and development at the workplace. From the literature, the researcher discovers

that employees are motivated when appropriate recognition and rewards are given. They are encouraged when they get positive appraisal. In addition, they are motivated when their knowledge and skills prior to workplace training is recognised and when they get incentives for meeting their learning goals.

Makeketa (2013) and Murphy (2015) recommended a number of strategies to strengthen the workplace RPL practice. These strategies include the line managers encouraging, promoting and putting the set guidelines into practice in their respective sections and establishing a professional mechanism or procedure to conduct final endorsement of competencies. The individual employee also ought to view the RPL as personal development, progression into a learning programme, promotion and career or job change. This encourages the employees to put themselves in better positions where they can own learning processes as well as make good use of the workplace learning opportunities such as inheritance of a lifelong learning culture (Makeketa 2013).

Harrison (2013) suggested that another important and highly effective way of acknowledging employees is by spontaneously praising them for meeting their learning goals. The researcher noted that many employees appreciate receiving sincere praise more than receiving something tangible. Employees enjoy recognition through personal, written, electronic and public praise from those they respect at work, given in a timely, specific and sincere way. Harrison (2013) outlined further that recognising an individual for their efforts by specifically stating what they did that is being recognised, pointing out the value it added to the team or organisation is very crucial.

This section 2.3.3 has discussed rewards and recognition factor and the next section 2.3.4 provides details regarding the influence of job characteristics factor on the workplace learning.

2.3.4 Job characteristics

Job characteristics encompass job demands, job control, job pressure and social relationships (Karasek 1979; Taris & Kompier 2004). Cho and Kim (2016) investigate the mediating effects of job characteristics on informal workplace learning. They find that job characteristics have a direct impact on workplace learning before undergoing training.

2.3.4.1 Job demand and Job control

According to Gijbels *et al.* (2012) and Hamann and Foster (2013), job demand and job control are the main work-related characteristics that affect learning. Karasek (1979) explained these characteristics in a relational model as shown in Figure 2.2. Such a correlation based relationship between job control and job demands has been later confirmed by Akbari, Akbari, Shakerian and Mahaki (2017).

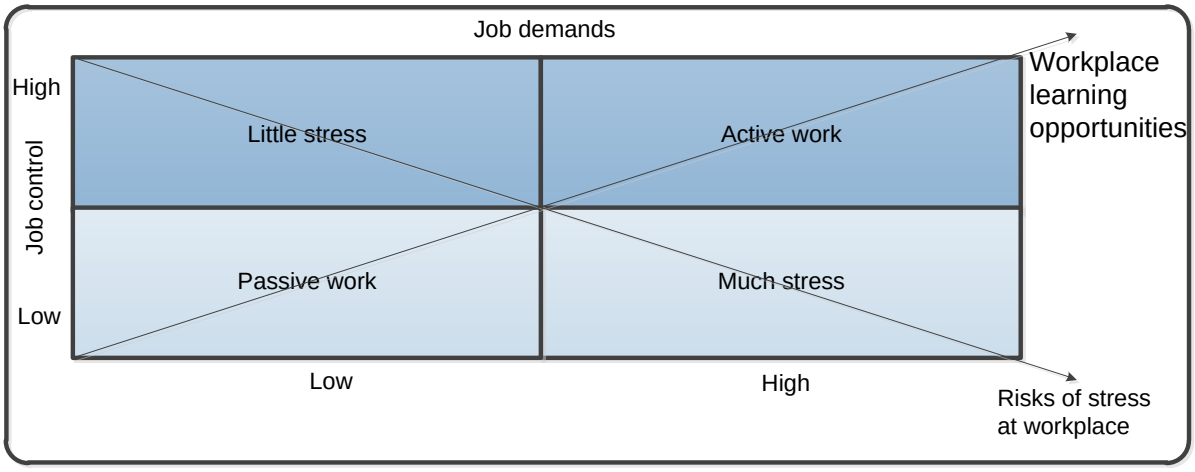


Figure 2.2: Job characteristics that influence workplace learning (Karasek 1979).

Job demands (i.e. the horizontal axis of the figure) refer to stress factors such as work pressure that is present within the work environment (Akbari *et al*. 2017). Work pressure arises whenever there is limited time to do so much work activities. More work pressure amounts to a demanding job (De Witte, Verhofstaat & Omey 2005; Cantley, Sherman, Slade, Galusha & Cullen 2015). Job control (i.e. the vertical axis of the figure) on the

other hand refers to the opportunities that an employee has in order to satisfy the job demands. These opportunities are defined by the extent to which employees make independent decisions for themselves and make full use of their own skills (De Witte *et al.* 2005; Cantley *et al.* 2015). Thus, a more demanding and less controllable job puts more pressure and stress on employees, resulting in the inhibition of learning (Karasek1979). According to Gijbels *et al.* (2012) as well as Akbari *et al.* (2017), a work situation offers a more learning potential if both dimensions of job demands and job control are in balance.

In a study done by Rivera-Torres *et al.* (2013) on job characteristics across gender, the results showed that the generation of job stress had a different pattern in men and women. In the case of men, the results demonstrated that only one dimension of the job demands stressor was significant (quantitative demands), whose effect on job stress was weakened slightly by the direct effects of control and support. With women, in contrast, emotional and intellectual aspects (qualitative demands) were also statistically significant. Moreover, social support had a greater weakening effect on the levels of job stress in women than in men.

2.3.4.2 Social relationships

Besides job demand and job control, Gijbels *et al.* (2012) concurred with Bauer, Rehrl and Harteis (2007) that a quality social relationship in the workplace also determines the learning effectiveness at the workplace. Quality social relationship involves the existence of good relations with colleagues and being able to rely on others, obtain accurate information, gain actual help or understanding and attention when difficulties are encountered, especially those of informal on-the-job learning (De Jonge, Bakker & Schaufel 2003; Kyndt, Vermeire & Cabus 2016). As mentioned in Section 2.3.2, the extent to which employees support each other to accomplish their goals and the supervisors show their understanding of those goals will determine whether the work pressure will develop into work stress or whether a motivational state is needed to foster an effective learning (Bauer *et al.* 2007).

Kyndt, Vermeire and Cabus (2016) affirm that opportunities for feedback on reflection and improvement of work processes is very important, especially for organisational level learning outcomes such as taking up leadership roles and shaping organisational policy. Feedback can assist the development of these competences and an integral part of a development appraisal in which the supervisor and employee have an equal status and the focus lies on the future collaboration (Smith & Drago 2016). During a developmental appraisal, both supervisor and employee provide feedback on reflection and possible improvement of work processes to each other with the goal to optimise the collaboration and performance.

2.3.4.3 Workplace change management

According to Billet and Choy (2013) and Dochy, Gijbels, Segers and Van den Bossche (2011), the contemporary workplace conditions require employees to sustain their employability (i.e. ability to be employable by organisation(s)) throughout their working lives. Thus, processes that initially develop and later maintain the occupational capacities to respond to emerging challenges of work (i.e. work tasks), work requirements (i.e. codes and standards) and ways of working (i.e. systems and processes) are required. Billet and Choy (2013) also noted that although learning is a process in which individuals engage mediating factors of situations; society and culture are central to understanding, learning and advancing the knowledge and skills required for work.

Certain changes of work environment like restructuring processes have been noted to have significant influence on the learning in the workplace (Heilmann 2007; Gustavsson 2012). Such changes often compel employees to develop their competence in order to maintain their positions in the labour market (Heilmann 2007; Bucic *et al.* 2010). According to Milligan, Margaryan and Littlejohn (2013), the learning needs and specialisation experiences of new and more experienced professionals during transitions are different. While both new and experienced workers use a range of learning modes of

specialisation experiences, the novices appear to be more aware of the act of learning than more experienced workers (Billet 2010).

Warhurst (2013) provided empirical evidence of managers' beliefs and intentions regarding their role in initiating workplace learning in the contemporary context of cuts and change. The study considers a case of MBA educated managers within local authorities in England's north-west region. The study found that there is a strong staff development intention among managers as part of fulfilling their managerial roles. The study expounds that if such intentions are being realised in their actions, learning within the workplace might be less of "a bi-product" of working and more of the outcome of purposeful work process designs. It was also reported that the typologies of the learning interventions' model which is extended to embrace learning outcomes, proves useful in analysing the diverse forms that these intervention intentions take (Gold *et al.* 2010). Knoll (2014) noted that employees need support before, during and after they move to a new workspace. A change management programme is a useful process for successfully managing employee transitions. Workplace change management, helping employees to quickly (and happily) adjust to new workspaces and new ways of working, is a process for engaging employees who are about to experience workplace change (Knoll 2014; Ruysseveldt & Dijke 2011).

A work environment that promotes learning ensures that its employees receive sufficient ICT learning opportunities to successfully adjust to workplace challenges. The jobs of the employees allow full use of their knowledge and skills. The employees have their jobs characterised by some form of independence to make ICT related decisions and are encouraged to infuse new ICT ideas.

In order to address learning inhibitors related to the job characteristics, the organisation should promote high job control to match the high job demands so that more learning opportunities are enjoyed and less risks of stress are experienced by the employees (Gijbels *et al.* 2012). In a high job control situation, the employees make decisions and full use of their own skills to improve learning and performance before and/or during a

learning programme (De Witte *et al.* 2005). Organisations should also identify and adopt the pedagogic/curriculum practices that enrich learning experiences which are streamlined to meet the employees' learning needs (Billet & Choy 2013). This practice helps equip the employees with skills that foster job control and overcome work pressures (Dochy *et al.* 2011). It is therefore expected that both managers and their employees should embrace the culture of continuous competence development in ICT systems to make them ICT savvy as well as resilient during strategic changes within the organisations (Heilman 2007; Arendt 2008; Lou & Goulding 2010).

2.3.5 Summary

The previous studies discussed in Section 2.3 identified the main organisational factors that affect workplace learning practices (i.e. before and/or during learning programmes take place). The discussed learning factors consisted of the learning culture, social (i.e. peer, managerial and team learning) support, rewards and recognition and job characteristics. Regarding a learning culture factor, the workplace learning may be enhanced when managers make sure that their team of employees receive a learning guidance in defining their learning objectives. The social support factor affects learning through the learning modes like having focused discussions with peers as well as receiving coaching from managers and facilitative processes. With regard to the rewards and recognition factor, learning at the workplace is enhanced when organisations offer their employees concrete and tangible benefits, rewards or incentives for participating in learning courses. Furthermore, the job characteristics factor plays the mediating effects on informal workplace learning, such that a high job control and a high job demand would create more learning opportunities. However, a low job control and a high job demand produces risks of stress at the workplace.

The next section presents the main technological factors that affect the learning of the adopted workplace ICT systems.

2.4 ICT SYSTEMS BASED LEARNING FACTORS

Certain ICT systems factors that influence the acceptance of ICT systems at retail organisations in developing countries have been identified (Bhuasiri, Xaymoungkhoun, Zo, Rho & Ciganek 2012; Vitanova *et al.* 2015). Such factors include: the quality of technology (e.g. information and system quality), ease of use, usefulness and security. Rawashdeh (2015) argued that learning how to use computers in various banks was influenced by the users' behavioural intention to usage, which was in turn based on employees' attitude toward use, including the three beliefs of perceived usefulness, perceived ease of use and perceived web privacy. Vitanova *et al.* (2015) asserted that the increase in professional use of ICT would positively affect the increase of ICT competencies of users. Hence contacting colleagues online for peer support, creating learning materials by using web resources and continually improving the technical equipment at the workplace were some of the key areas that would positively affect the use of ICT by learners.

Bhuasiri *et al.* (2012), Jahangir and Begum (2008) claimed that a positive influence of ICT systems based learning factors can be accelerated by a number of organisational interventions. These include but are not limited to: increasing the awareness of the technology among potential learners through organised workshops; creating a positive attitude towards e-learning through peer and trainer coaching; enhancing basic knowledge and skills in technology during training programmes; improving the content of learning and computer training within training institutions; motivating users to utilise e-learning systems and seeking a high level of support from the training institutions (Bhuasiri *et al.* 2012).

Davis (1989) stated that a technology acceptance model (TAM) consisting of the perceived system quality (PSQ), perceived ease of use (PEOU), perceived usefulness (PU) and perceived security (PS) of adopted workplace ICT systems are key antecedents affecting the employees' and customers' attitude regarding the use of such systems (Abeka 2012; Al-Smadi 2012; Jahangir & Begum 2008). According to the theory

of TAM, attitude creates salient beliefs about the consequences of a given behaviour and their evaluation of those consequences (Jahangir & Begum 2008). The TAM has been applied previously to investigate the relationships amongst the user acceptance of workplace ICT systems, learning and performance (Al-Smadi 2012; Bhuasiri *et al.* 2012; Davis 1989; Fonchamnyo 2013). This model assists HRD decision makers to understand the reasons why learners either accept or reject the learning of a particular piece of information technology (Al-Smadi 2012). Consequently, section 2.4.1 will discuss the TAM model with regard to how it affects an effective learning of ICT systems in the workplace.

2.4.1 Perceived systems and information quality

The quality of the ICT systems comprises of its information quality (IQ) and the systems quality (SQ) (Davis, 1989; Chen & Kao 2012). An IQ of the ICT systems is defined as the accuracy, completeness, ease of understanding and relevance of the ICT systems (Chiu *et al.* 2007; Chen 2010; Wong, Teo & Russo 2012). Thus, Chen and Kao (2010) regarded the IQ of ICT systems as an indication of users' perceptions of completeness, adequateness, accuracy, timeliness, relevance, consistency and clarity of the ICT systems. Well-designed ICT systems and e-learning materials facilitate meaningful educational experiences (Sambrook 2002).

According to Bhuasiri *et al.* (2012) and Cacciattolo (2015) workplace learning is the way in which work skills are upgraded and knowledge is acquired at the place of work. Bhuasiri *et al*. (2012) postulate that learning is a complicated activity in which teaching skills, curriculum and teaching resources influence the learning process. Thus, the IQ of ICT systems has a strong positive effect toward learners' satisfaction through integrating work skills and knowledge. The higher the IQ of ICT systems, the stronger is its effect toward learners' satisfaction and effectiveness. Conversely, the lower the IQ, the weaker is its effect on the learning satisfaction and effectiveness (Chen & Kao 2010). When the ICT systems related IQs are perceived by the employees to be accurate, complete, easy to understand and relevant for the completion of their jobs, then the employees are likely

to learn such systems without facing information quality barriers. Conversely, when ICT systems appear to lack these information qualities this will likely discourage the employees' learning (Alkhattabi, Neagu & Cullen 2011).

Several significant information quality (IQ) factors of ICT systems have been described vividly by Sambrook (2002). They are namely:

- *user-friendliness* - whether the information material is easy to use and the instructions provided are clear;
- *presentation* - clear and accurate information, with no spelling mistakes;
- *graphics* - the proportion of quality of pictures and diagrams with regard to the entire content of the material;
- *interest* - whether the material is interesting to read or is boring when used during a learning process. An interesting to read material will likely foster deeper learning than those which are boring;
- *information* - the amount and quality of the content, whether there is too little content or overload of content;
- *knowledge* - the extent to which new knowledge is acquired;
- *understanding* - whether the material is easy or difficult to understand;
- *level* - whether the material is considered too basic or too deep for the learners' current knowledge and skills;
- *type of learning* - whether deep learning or rote learning or memorising facts is required or not;
- *language* - whether the language is difficult to read and whether there is use of jargons or definitions are lacking; and
- *texts* – whether the amount of texts and graphics balance.

These aspects of quality of information as an ICT systems-based learning factor have positive or negative bearings on the effectiveness of learning ICT systems at the workplace. Hence, Sambrook (2002) found that when information material about the ICT systems was easy to read, had clear and accurate contents, had high-quality graphics

included, was likely to generate new knowledge, was easy to understand, had non jargon language and had a balance of the amount of texts and graphics, then the high likelihood that such information would foster effective learning of the adopted ICT systems at the workplace.

Apart from the IQ of ICT systems, Chen and Kao (2012) asserted that the quality of ICT systems also affects the learners' perception for effective learning of such ICT systems at the workplace. By definition, a SQ is the users' perceptions of easy operation, responsiveness and stability in using the systems (Chen 2010; Wong *et al.* 2012). With regard to learning how to use workplace ICT systems, SQ relates to learners' beliefs about the characteristics of the system's performance (Chiu *et al.* 2007) and is measured by functionality, ease of use, reliability, flexibility, data quality, portability, integration and importance (Bhuasiri *et al.* 2012). Other SQ factors that have been found by recent researchers include Internet quality, facilitating conditions, system functionality, system interactivity, system response, and equipment accessibility (Lee 2010; Teo 2010; Wu *et al.* 2010). Organisations must ensure that the procured ICT systems are both SQ and IQ compliant during the implementation. In other words, ICT systems quality audits, reviews and assessments should be conducted in accordance to the International Standard Organisation (ISO) 9000, 9001 and 9004 standards taking into account the employees' expectations from learning and use of the ICT systems (Popa 2011).

When employees perceive the quality of ICT systems and associated user manuals to be reliable, flexible, sustainable, and clear in terms of usability instructions, the employees will likely learn such systems with a view of improving their performance at the workplaces (Popa 2011; Bhuasiri *et al.* 2012). Alkhattabi *et al.* (2011) argue that improved technologies may mean faster and easier access to the learning information but not necessarily ensure the quality of such learning information. Thus, valid and reliable methods of IQ measurement should be developed by the organisation adopting the ICT systems so as to determine IQ needed for effective learning of the adopted ICT systems in the workplace learning.

2.4.2 Perceived systems ease of use

The theory of technology adoption model (TAM) considers the perceived systems ease of use (PEOU) as one of the most important factors in explaining individual users' learning and adoption intentions (Davis 1989). The PEOU refers to the degree in which, the individuals believe that using the system will be free of effort (Abeka 2012; Jahangir & Begum 2008). In other words, the PEOU with regard to the learning of e-banking systems refers to the degree in which the individuals perceive that learning and using such e-banking systems will be easy (Abeka 2012; Davis1989; Fonchamnyo 2013).
Brown (2002) and Cicciattolo (2015) agreed with Davis (1989) when they examined the technological factors that affect the PEOU of the web-based learning technologies in a developing country. The study found that the ease of understanding (EOU) and ease of finding (EOF) learning materials about the adopted ICT systems have a significant influence on the PEOU. Whereas the EOU describes how easy or difficult the ICT system as an e-learning system can be understood, the EOF describes how easy or difficult a relevant learning material can be retrieved online by the learning employee. Brown (2002) asserted that a positive PEOU can in turn enable learning through an influence of the learners' attitude but a lack of PEOU inhibits the workplace learning.

The lack of PEOU comes as a result of anxiety in an employee towards a particular ICT system. Anxiety refers to feelings of apprehension, tension, nervousness and/or worry and computer anxiety is a negative emotional state occurring when using technology and overall performance with technology (Holt & Brockett 2012). With regard to the learning of computers, computer anxiety is defined as the fear of learning about computers (Arigbabu 2009). An anxiety towards computers is posited as an individual employee characteristic that impacts on the learning and using the computers especially during the early period of the ICT systems adoption (Brown 2002). The computer anxiety grows and becomes an individual behaviour that directly and negatively affects the PEOU and learning of ICT systems.

The ICT systems anxiety is typically the users' general concern whether they have the ability to succeed in the learning and hence using the newly adopted workplace system. Brown (2002) observed that employees who have no prior ICT knowledge and skills often consider computer anxiety as an emotional learning inhibitor compared to employees who have prior working experience with the ICT systems. Achim and Kassim (2015) argued that employees who did not upgrade their knowledge of computer usage, would fear and become afraid of using the computer application. When this situation happened, they easily thought that every step would lead to mistakes in using the computer because they did not have sufficient knowledge about the latest computer application (Achim & Kassim 2015).

In order to address the negative perception of the ease of use of the adopted ICT systems, Abeka (2012) recommended that managers need to offer both technical and non-technical support that reinforces change in the employees' attitude towards the PEOU of the ICT systems. The positive attitude helps foster the transfer of effective knowledge and skills to the banking customers. The transferred knowledge and skills from the employees to the customers enriches e-banking adoption by both the banks and the retail customers (Jahangir & Begum 2008). The managers ought to allow their employees to gain more experience and new insights in learning the ICT systems by working with the ICT systems over a sufficient period of time (Venkatesh 2000). Leelakulthanit and Kini (2013) advised that the ICT anxiety can be overcome when the organisation presents a less tense working atmosphere in which employees have a relaxed environment to study the workplace ICT systems. In other words, the employees have room to access the appropriate ICT systems learning materials and understand the ICT systems terminologies and technical functions related to how to use such ICT systems at their own set pace (Leelakulthanit & Kini 2013).

2.4.3 Perceived systems usefulness

The operational definition of the perceived systems usefulness (PU) refers to the extent to which individuals believe that using a particular system will enhance their job

performance by helping them accomplish tasks faster and be generally advantageous (Abeka 2012; Davis 1989). Therefore, PU of e-banking systems measures the degree to which the users believe that adopting and workplace learning of the e-banking systems will improve their bank transactions (Fonchamnyo 2013; Jahangir & Begum 2008). Improving users' job performance implies the efficiency of the systems. Thus, efficiency refers to the extent to which time, effort or cost investment produces the desired learning and performance goals (Abeka 2012; Sambrook 2002). The PU and PEOU have been applied to various applications such as email, word processing, microcomputer, telemedicine technology, e-banking, e-library, e-commerce, smartcard, e-tax filing, and e-learning (Seraphim 2010). Thus, managers ought to evaluate the efficiency of the adopted ICT systems to their intended functions and verify if they meet learning and performance goals (Chien 2012).

Abeka (2012) recommended that encouraging a higher adoption rate of the e-banking systems requires that banks hold a series of internal awareness seminars and exhibitions for employees to evaluate the uptake and PU of the new banking ICT systems. When the employees are engaged in awareness programmes of new products and services organised by their own banks, a positive PU can easily be transferred from banking employees to the banking customers.

Jahangir and Begum (2008) suggested that banking management should adopt usable e-banking systems to promote a positive perceived usefulness amongst bank employees. They added that in order to attract more users towards electronic banking, merely introducing e-banking systems is not going to be sufficient but developing the belief of its usefulness will be key towards attracting more e-banking ICT systems' learners and users. In other words, when usefulness enhances job performance, eases job tasks, enhances job efficiency and comprehensively covers all learning needs of the employees, then there is a high likelihood that an employee will consider learning such ICT systems at the workplace.

Siddiq and Scherer (2015) analysed the Norwegian data from the International Computer and Information Literacy Study to determine to what extent was teachers' perceived usefulness of ICT related to teachers' ICT self-efficacy, use of ICT for teaching and learning, and age? The researchers found that there were positive relations between the three positively formulated factors of teachers' PU, self-efficacy and ICT use. These results supported previous research indicating that teachers who perceive themselves as competent in ICT perceive the use of ICT as useful, and vice versa. Accordingly, teachers who saw problems and obstacles in ICT use tend to have low self-efficacy in ICT. The researchers also found that there were negative relations between PU and teachers' age, suggesting that older teachers perceive ICT as less useful for teaching and learning than younger teachers. In addition, higher age was associated with higher levels of perceiving the problems and obstacles of ICT use.

2.4.4 Perceived systems security

The perceived systems security (PS) is defined as users' perception of protection of their transaction details and personal data against unauthorised access (Fonchamnyo 2013; Jahangir & Begum 2008). Law (2007) regarded the term ICT systems security as "the protection of information or ICT systems from an unauthorised intrusion, that is, the degree to which the ICT systems users perceive e-banking not to be easily susceptible to fraud". Employees who lean and use ICT systems at the workplace are mainly concerned with the security of the systems, in particular with the unwarranted access to their accounts, leading to the violation of their own privacy (Fonchamnyo 2013).

Yang (1997) claimed that banking organisations often use dedicated Internet connections making them susceptible to the risk of someone from the Internet gaining unauthorised access to their computer or ICT systems. This phenomenon exposes the e-banking system users to security risks stemming from the unauthorised access into their banking accounts. Al-Smadi (2012) defined perceived risk (PR) as "the users' perception of the uncertainty and potential adverse consequences of transacting a product or service". As

a result, the banking employees may tend to resist not only the adoption of the e-banking systems but also the learning of how to effectively use them (Gikandi & Bloor 2010; Fonchamnyo 2013).

A study conducted by Gikandi and Bloor (2010) regarding the e-banking adoption in Kenya touched on the perceptions of the banking employees on the e-banking security. The study results revealed that an adoption of e-banking systems in Kenya introduces new risks requiring new risk management strategies. All banks surveyed had experienced at least more than one instances of both internal and external electronic security threats that hinder the learning of e-banking systems in retail bank branches. Ramavhona and Mokwena (2016) studied factors that influence internet banking in South African rural areas. Their study results demonstrated that perceived external variables such as awareness and security could significantly affect the adoption of internet banking in South African rural areas. In another study, Maleka (2012) added that there was no gender difference when it came to the learning of the adopted ICT systems in a developing country such as South Africa.

On the other hand, various studies have suggested that appropriate security measures enable e-banking systems adoption as well as learning in retail bank branches (Fonchamnyo 2013; Gikandi & Bloor 2010; Law 2007; Yang 1997). In an effort to mitigate e-banking systems risks, banks can employ various mechanisms such as physical security measures like the installation of back-up servers and use of removable hard disks among others. Banks ought to adopt specific security features such as firewalls, authentication, encryption, personal computer hardware security, and smart cards among others (Al-Smadi 2012). Due to the easy portability and ease of distribution through networks, software-based systems can also be used by the banks in order to address learning barriers associated with the PS (Yang 1997). When learners perceive that their personal information is secure during their learning and working with the ICT systems, they continue to engage actively in learning and usage of such ICT systems, otherwise they become reluctant to learning ICT systems for the fear of being hacked if personal information security cannot be guaranteed.

2.4.5 Summary

Section 2.4 outlined the main ICT systems based factors that affect the employees' learning and their use of the adopted ICT systems in the workplace. These factors included: the perceived quality, ease of use, usefulness and security. It should be concluded that learning how to use computers in various banks is influenced by the users' behavioural intention to usage, which is in turn based on employees' attitude toward use, including the three beliefs of perceived usefulness, perceived ease of use and perceived web privacy. Thus, the ICT systems perceived to be of high quality, user-friendly, secure, and useful are likely to support learning of the ICT systems. However, when such attributes are lacking in the description of such ICT systems, then the workplace learning are likely to be inhibited. Thus the organisations can intervene in many ways including increasing the awareness of the technology among potential learners through organised workshops; creating a positive attitude towards e-learning through peer and trainer coaching and enhancing basic knowledge and skills in technology during training programmes.

2.5 SUMMARY

In Chapter 2, the discussions of factors that affect the learning of the adopted ICT systems at the workplace have been provided. These factors have been classified in terms of the individual employee based factors (such as motivation, self-efficacy, time management and attitude), organisational based factors (such as learning culture, social support, reward and recognition and job characteristics) and ICT systems factors (such as the perceived systems quality, perceived ease of use, perceived usefulness and perceived security). Chapter 2 has also provided strategies that have been suggested in the literature to overcome factors that may not support learning at the workplaces, particularly in retail banking sector.

The next chapter (i.e. Chapter 3) will discuss in detail the quantitative research design and methodology. Chapter 3 will utilise a survey design to gather field data.

CHAPTER 3 : RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter 1 defined the research problem statement, research questions and objectives regarding determining main factors that support the banking employees' learning of the adopted banking ICT systems in the workplace. The chapter also outlined the quantitative research design and method to be employed in this study.

Chapter 2 covered a literature study on the individual employee, organisational and ICT systems' factors that support the employees' learning (before training) in the workplace. The literature study focused on conceptualising the factors that affect the employees' learning of the adopted ICT systems before undergoing training.

In Chapter 3, the research design and method to be employed so as to empirically investigate the factors that affect the learning at the workplace have been described. The researcher has adopted the postulation posed by Salkind (2012a) and Creswell (2014) that a research methodology is a detailed and systematic procedure to be followed in order to describe, explain and predict the phenomenon under investigation. Thus, the chapter begins by firstly stating the research questions, aim and objectives of the study. Secondly, it provides the research design process, namely the identification of the research design to be employed as well as its variables and limitations. Thirdly, the selection of the population and sample of the study has been explained. Fourthly, the empirical research method consisting of the pilot study, main study, data collection, data capturing procedures and data analysis has been discussed. Fifthly, the questionnaires that have been designed, the procedure to seek permission to conduct the research and ethical considerations are presented. Lastly, a conclusion of the chapter has been provided.

3.2 PRIMARY AND SECONDARY RESEARCH OBJECTIVES

The primary research objective of this study is to identify and empirically investigate the individual employee, organisational and ICT systems based factors in order to determine the extent to which these factors support the employees' learning of the adopted Kenyan retail banking ICT systems before undergoing training.

This primary research objective will be achieved through the following secondary research objectives, namely to:

- Conceptualise the individual employee, organisational and ICT systems based factors that affect the employees' learning of the adopted ICT systems at the workplace (Literature review research objective).
- Determine the level of agreement regarding each of the individual employee, organisational and ICT systems based factors, as perceived by the respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) in the Kenyan retail banks, which affect their learning of the adopted banking ICT systems before undergoing training (Research objective 1).
- Determine the level of agreement regarding each of the strategy factors as perceived by the respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) in the Kenyan retail banks that can optimally address the factors that affect learning of the adopted banking ICT systems before undergoing training (Research objective 2).
- Determine the linear relationship between the individual employee, organisational, ICT systems and strategy factors for each respondent group (the tellers and customer care consultants as the first group and the line managers as the second group) in the Kenyan retail banks (Research objective 3).
- Investigate whether statistically significant differences exist between the two respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) with regard to their level of agreement on

each of the individual employee, organisational and ICT systems based factors that affect their learning of the adopted banking ICT systems before undergoing training (Research objective 4).

- Investigate whether statistically significant differences exist between the two respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) with regard to their level of agreement on each of the strategy factors that can optimally address the factors that affect learning of the adopted banking ICT systems before undergoing training (Research objective 5).
- Investigate whether statistically significant differences exist between the categories defined for each demographic variable (gender, age, highest level of education, highest qualification in ICT, job position, employment status, experience with the banking ICT systems and the number of training programmes attended before) with regard to each of the individual employee, organisational and ICT systems based factors for each respondent group (the tellers and customer care consultants as the first group and the line managers as the second group) (Research objective 6).
- Investigate whether statistically significant differences exist between the categories defined for each demographic variable (gender, age, highest level of education, highest qualification in ICT, job position, employment status, experience with the banking ICT systems and the number of training programmes attended before) with regard to each of the strategy factors for each respondent group (the tellers and customer care consultants as the first group and the line managers as the second group) (Research objective 7).

3.3 RESEARCH HYPOTHESES

The underlying alternative research hypotheses are presented below:

- **Ha1:** There are linear relationships between the individual employee, organisational, ICT systems and strategy factors for each respondent group.

- **Ha2:** There are statistically significant differences between the two respondent groups with regard to their level of agreement on each of the individual employee, organisational and ICT systems based factors that affect their learning of the adopted banking ICT systems before undergoing training.
- **Ha3:** There are statistically significant differences between the two respondent groups with regard to their level of agreement on each of the strategy factors that can optimally address the factors that support the learning of the adopted banking ICT systems before undergoing training.
- **Ha4:** There are statistically significant differences between the categories defined for each demographic variable with regard to each of the individual employee, organisational and ICT systems based factors for each respondent group.
- **Ha5:** There are statistically significant differences between the categories defined for each demographic variable with regard to each of the strategy factors for each respondent group.

3.4 RESEARCH DESIGN

According to Rugg and Petre (2007:62), Mbhalati (2010:196) and Van Wyk (2016), research designs are approaches that are used to answer the research problem and questions, rather than approaches that exist in splendid isolations. It may also refer to the overall strategy that researchers choose to integrate the different components of the study in a coherent and logical way, thereby ensuring that a given research problem is effectively addressed (USC 2014). The research design constitutes the blueprint for the collection, measurement, and analysis of data. Vosloo (2014) views a research design as the functional plan that links together certain research methods and procedures to arrive at reliable and valid data sets for empirically grounded analyses, conclusions and theory formulation. In this regard, the type of research design to be used is determined by the concerned research problem and not the other way around (USC 2014). For different research questions, different types of research designs are needed (Jackson 2011).

A quantitative research design poses a ‘who’, ‘what’, ‘which’, ‘when’, ‘where’, ‘how’, ‘how many’ and ‘how much’ type of questions (Creswell 2014). A quantitative descriptive research design is the description of the phenomena or the occurrences in real situations. This type of research design enables the researcher to generate new knowledge of the subject by describing the characteristics of persons, situations, and the frequency with which certain phenomena take place (Burns & Grove 2003; Harwell 2011; Abott & McKinney 2013). A descriptive design does this by answering the “what” types of questions or recommendations can be made regarding behaviours of certain phenomena (Harwell 2011). Furthermore, Van Wyk (2016) concurs with Wisker (2009) that the description of the phenomena might have to be repeated several times and further exploratory questions asked about the reasons for its change or stability.

Therefore, quantitative descriptive research designs use questionnaires to seek responses from a sample of a large number of respondents (Dane 2011; Jackson 2011; Salkind 2012a; Abbott & McKinney 2013). This means that the feedback from the respondents is counted quantitatively or numerically, analysed statistically and generalised to the whole population (Shadish, Cook & Campbell 2002; Williams 2005; Gray 2012; Creswell 2014). The statistical tests include descriptive statistics like the mean, median and standard deviation as well as inferential statistical tests such as student t-tests, correlation analysis and nonparametric tests. Such statistical tests enable the researcher to derive important facts from the research data, including preference trends and differences between demographic groups (McClain & Madrigal 2012).

This current study has used a quantitative descriptive research design, survey design and followed sound scientific principles. This type of research design has a number of characteristics including the ability to study a large number of a population; generalising a research finding which has been replicated on different populations and sub-populations; or generalising a research finding whose data are based on random samples of sufficient size (Creswell 2014). The quantitative descriptive research design

is also useful in the tests and validation of well-known theories about how and why phenomena occur as well as in the testing of hypotheses that are formulated prior to the collection of the research data (Creswell 2014; Collis & Hussey 2014).

3.4.1 Advantages of quantitative research design

The quantitative research design applied in this study has several advantages as outlined in the previous studies (Gray 2012; Kumar 2010) namely:

- It is useful when carrying out a large scale baseline survey, i.e. it can be used when large quantities of data from large samples of a population need to be collected;
- It is independent of the researcher, that is, it is highly reliable in the sense that if a similar study were to be repeated by other researchers using the same conditions, then the findings would likely replicate;
- The research results are usually precise and numerical (quantifiable) and hence may lead to an improved “objectivity” of the conclusions;
- The research data is usually generalisable to a larger population and replicable to different populations;
- The design can allow the researcher to note the changes observed in the responses triggered by causal stimuli in certain phenomena over time. This may mean that the observed research outcomes can help in making quantitative predictions;
- Data analyses use statistical software such as the software package for social sciences (SPSSv23) tool (Levesque 2007; Lesame 2008; UCLA 2016); this may be relatively less time consuming;
- The design allows the testing and validation of the already constructed theories about how and why the phenomena occur;
- The researcher may construct a situation that eliminates the confounding influence of many variables, allowing one to credibly establish cause-and-effect relationships.

3.4.2 Limitations of quantitative research design

Although the application of quantitative research design presents many advantages, there are also limitations associated with it (Babbie 2013; Creswell 2014). Babbie (2013) and Creswell (2014) argue that virtually all research studies present some limitations that must be dealt with appropriately. For this reason, the researcher put in place measures to address these limitations before embarking on the empirical study exercise. The limitations and associated measures of the quantitative research designs include the following:

- The daunting task of collecting and analysing data from a large number of respondents (Neuman 2009; Kalanda 2012; Abbott & McKinney 2013). This can be addressed by ensuring that the questionnaire is properly designed so that the researcher can easily analyse data collected using software like the Ms Excel or SPSSv23 for statistical analyses as well as the use of a sample rather than the whole population due to financial, time and geographical constraints (Saunders, Lewis & Thornhill 2009). This researcher has ensured that the selected sample is large enough to allow for drawing accurate conclusions regarding the factors that support the employees' learning of the adopted workplace ICT systems.
- An extended period of data collection due to the large sample size considered (Kalanda 2012). The researcher in this study has reduced the possible extended period of data collection by specifying the due date on which the questionnaire should be returned. The questionnaires have also been kept short to encourage participation and a quick rate of return.
- This study is being done in branches of the selected retail banks. However, some branch managers may not grant the permission to conduct the study due to ethical and other possible reasons. The researcher has minimised this limitation by adhering to the ethical code of conduct in designing the questionnaire and in seeking for permission to conduct the study.

3.4.3 Research variables

The research variables in this study involved the individual employee, organisational and ICT systems based factors that support the Kenyan retail banking employees' learning of the adopted banking ICT systems before undergoing training. There is no independent and dependent variables in this study.

3.5 POPULATION AND SAMPLE

As defined in Section 1.9.4 of Chapter 1, a population (N) refers to all people or items with the characteristics on which a statistical study is supposed to be undertaken (Groves, Fowler, Couper, Lepkowski, Singer & Tourangeau 2013). Awases (2006) and UMSL (2016) on the other hand refer to a target population as an aggregate of cases or items about which a researcher would like to make generalisations or scientific conclusions. In this study, the total number of licensed commercial banks operating retail services in the Kenyan banking industry has been considered to be 43 per county according to the report by the Central Bank of Kenya (CBK 2014). For the purposes of this study, the researcher has also assumed that the maximum number of commercial banks are available in each county is 43. Thus, considering that Kenya is divided into 47 administrative counties as provided in Kenya Law Report (KLR 2010), the figure of 43 banks per county has been used to derive the target population of the banking employees. However, a focused research study is usually done on a sample size (n) or a portion of items in a very large population size (N) (Dane 2011).

Dane (2011) defines a sample as a portion of the items in a population and clarifies that sampling is the selection of a subset of individuals from within a population in order to estimate the characteristics of the whole population. There are two types of sampling techniques that can be employed to get samples. These include; non-probability sampling and probability sampling. Salkind (2012a) argued that in non-probability

sampling, the probability of selecting an individual is not known and the potential members of the sample do not have an independent and equal chance of being selected. Studies by Maree (2007), Mbhalati (2010) and UMSL (2016) consider a non-probability sampling technique in which samples are “selected based on the subjective judgement of the researcher”. The sampling procedures are directed towards obtaining a certain type of element. However, probability sampling and specifically the random selection technique has been described as a process whereby each item in the population has an equal probability of being included in the sample (Dane 2011). Types of probability sampling include simple random, systematic, stratified, cluster and multistage sampling (Neuman 2009; UMLS 2016).

3.5.1 Focus region and target population

This study firstly applied purposive sampling, a type of non-probability sampling to select five (5) licensed commercial banks from the 43 banks in the country. The selection of this number of banks has been based on the criteria that their branches are widely distributed and evenly operational in the 47 counties as compared to others mainly found in more affluent regions (Munjuri 2011). It is thus, assumed that the targeted banking employees have been sourced across the nation and that they have ICT training challenges similar to their counterparts from branches elsewhere in the country (KIB 2014). The Kenyan bank branches listing indicates that on average the five selected banks have three (3) operational branches in each county, making an estimated number of branches in the country to be 705 (CBK 2014).

As no list of all employees are available or accessible to the researcher, based on the researcher’s personal working experience in the Kenyan retail banking industry and a research study conducted by Iveri (2014), a typical retail bank branch has an estimated population of five (5) tellers, two (2) customer care consultants and three (3) line managers. Therefore, the target population (N) of these categories of employees combined then become N = 7050 in 705 branches from the 47 counties countrywide.

The study subsequently used both convenience and purposive sampling to select how many regions and which region to target. Due to time and financial limitations only one region was selected (convenience sampling) for the study. Moreover, a purposive sampling approach has been used to select the western Kenya region that constitutes six counties, namely Nyamira, Kisii, Migori, Homabay, Kisumu and Siaya. The region is decided on because the retail bank branches operating in the region face many critical learning and logistical challenges. These include the geographical inaccessibility, high cost of banking service provisions, lack of financial education and understanding among a majority of potential customers, limited access to the ICT infrastructure and a low level of ICT skills among the employees (Dupas *et al.* 2012; Iveri 2014). In addition, the branches of the targeted retail banks are mostly located in major towns within the counties. Hence, their customers are usually compelled to travel from the villages to the towns for banking services. The cost of travelling incurred by the customers for retail banking services is more prohibitive than to access such services by utilising banking technologies at their convenient locations (Dupas *et al.* 2012).

The six counties in the western region of Kenya thus have an estimated number of 90 bank branches, i.e. six counties each having five operating banks and each bank has on average three branches. Thus, the estimated target population of the bank branch employees is (N) = 900, i.e. 90 branches each having ten target employees (five tellers, two customer care consultants and three line managers). Consequently, the total estimated target population size of retail bank tellers, customer care consultants and their line managers in the western region of Kenya is proportionately 450, 180 and 270, respectively.

3.5.2 Sampling of target population

The following approach was followed for selecting a sample from the target population. Firstly, a random sampling method was used to select one branch out of three branches from each of the five banks in the six counties. Therefore, the total number of branches became 30 (i.e. one branch from each of the five banks operating in the six counties).

This researcher furthermore employed the stratified random sampling technique to select two strata of retail banking employees working as tellers and customer care consultants (as the first stratum) and line managers (as the second stratum). Saunders *et al* (2009:221) explain the stratified random sampling as a technique in which the population is divided into relevant and significant strata based on several attributes. The tellers and customer care consultants were selected because they work at the front office and the nature of their work involves a direct interaction with the retail banking customers. On the other hand, the line managers were selected because they were responsible for the human resource development (HRD) programmes of the retail banking employees who reported directly to them, namely the tellers and customer care consultants. In addition, the target groups deliver the banking services and offer guidance to the retail banking customers through the use of the adopted banking ICT systems.

From the 30 branches, the target employees have thus been proportionately selected using the inclusion criteria and the ratio 5:2:3 as mentioned in section 3.6.1. Therefore, the accessible sample size (n) of the target respondents was 300, i.e. 30 branches each having ten employees of the target group. In other words, the target sample size consisted of 150 retail bank tellers, 60 customer care consultants and 90 line managers.

The inclusion criteria for tellers, customer care consultants and line managers have been that they:

- Work at the front office;
- Have a direct interaction with the retail bank customers;

The exclusion criteria for the target groups have been that they:

- Work at the back office;
- Have an indirect interaction with the retail bank customers.

More specifically, the retail banking tellers and customer care consultants have been selected to identify the factors that support their learning of the adopted banking ICT systems in their retail bank branches. These two groups of employees are required to learn and use the adopted banking ICT systems in delivering the banking products and

services to their customers (Ongori & Migiro 2010). On the other hand, the retail banking line managers are to identify the learning needs of the banking tellers and customer care consultants in the adopted retail banking ICT systems. In addition, the line managers are responsible for offering prompt training opportunities and interventions to their subordinates (Abukhzam & Lee 2010).

Section 3.5 provided the population and sample selections of the targeted respondents in the Kenyan retail banks. The next section will discuss the research method that includes the data collection procedure, design of the questionnaires, advantages and disadvantages of questionnaires. The empirical study, an introduction to the data capturing and analyses to be used in this study have also been presented in the next section.

3.6 RESEARCH METHODS

According to Wisker (2009:67) and later confirmed by Van Wyk (2016) a research method is a vehicle and process used to gather data. This implies that research methods involve various procedures and schemes applied to research data collections and analyses (Hofstee 2006:115; Salkind 2012b; Creswell 2014). With regard to the above definitions, the proposed study has used questionnaires as research vehicles to gather empirical data from the field. These questionnaires will be sent out to the targeted respondents in the sample for completion.

3.6.1 Data collection procedure

The researcher first approached the regional and branch managers (RMs and BMs) in person or via a telephone conversation in order to seek permission to conduct the empirical study in their branches. They were informed of the purpose and potential benefits of the study during the visit or conversation. When the permission was granted,

the researcher then requested the branch managers (BMs) to act as gatekeepers between her and the respondents. In this case, the researcher gave in person, where possible or couriered the paper-based questionnaires to the respondents through the BMs. The BMs placed research documents in special letter boxes at neutral locations such as the offices of the secretary and then requested the respondents to collect the documents from the boxes. This was done in a bid to maintain confidentiality and to report findings in an anonymous manner.

Amongst the research documents, the respondents got information sheets stating that their participation was voluntary and they were under no obligation to consent to the participation. The information sheets also explained the purpose of the questionnaire, the guaranteed confidentiality, the potential benefits from the outcomes of the study, the contact details of the researcher and the due date to return the completed questionnaires. In the information sheets, each respondent was advised to return the signed consent sheet in one sealed envelope and the completed questionnaire in another sealed envelope in order to maintain the anonymity of the respondent. The envelopes were placed into the special boxes awaiting collection by the researcher.

The researcher had the paper-based questionnaires couriered to her by the BMs via secure mail services. The data gathering exercises for the pilot and main study respectively, took three months each instead of the originally expected three weeks each. The delay in the responses was attributed to the lack of dedicated time at the workplaces for the target respondents to complete the questionnaires. The feedback data from the returned questionnaires were captured and saved on a database to await analyses.

3.6.2 Advantages of using questionnaires

There are several advantages of using questionnaires:

- According to Wisker (2009) and Vosloo (2014), collecting empirical data using the questionnaire method aims to seek responses from a large sample of respondents as compared to the personal or face to face interviews. The large number of respondents reached in a short time raises confidence in the sample.
- The feedback from the large sample of respondents can be counted, measured and statistically analysed (Ball 2012).
- A questionnaire is often used to gather information about facts, attitudes, behaviours, activities and responses to events. This means that a well-designed questionnaire can have an in-depth exploration of the phenomenon (Tabibi *et al.* 2011).
- The questionnaire usually consists of written questions and all respondents answer the same phrased questions thereby reducing the possible problems of bias (Jackson 2011; Salkind 2012b).
- The use of the questionnaire is cost-effective when compared to face to face interviews (Tabibi *et al.* 2011). This is especially true for studies involving large sample sizes, large and dispersed geographical areas.
- The use of a questionnaire is less intrusive and permits anonymity that may lead to honest responses compared to face to face interviews (Creswell 2014).
- The use of a questionnaire also allows for open-ended questions which in turn put the respondents at ease, give them a sense of control where they are able to express themselves in their own words and allow them provide more in-depth answers when required (Jackson 2011; Salkind 2012b).
- A well-constructed and properly piloted questionnaire has an increased validity and reliability. This is seen when a questionnaire can be replicated and used in later studies (Creswell 2014).
- Generally most people are not made apprehensive by the questionnaires as they are familiar with them (Neuman 2009; Deniz & Alsffar 2013).

3.6.3 Disadvantages of using questionnaires

In spite of the many advantages of the questionnaires, several previous studies like Awases (2006), Rugg and Petre (2007), Salkind (2012b) and Ball (2012) report a number of disadvantages such as:

- Questionnaires are largely based on personal reporting and therefore may be biased or inaccurate. This has been addressed in this study by designing highly structured questions.
- There is a possibility of obtaining a low response rate when using questionnaires. Concise questionnaires have been designed by the researcher to achieve a relatively high response rate (i.e. it will take approximately 20 to 30 minutes to complete).
- Questions or statements in the questionnaires may not be able to probe exact responses as they are structured in nature. The researcher has tried to overcome this drawback by allowing frequent spaces for comments.
- For some reasons the actual respondent may not be the one targeted by the researcher. This is a confounding error inherent with the use of questionnaires. In order to minimise this error, the branch managers, as the appointed gate keepers, requested only the target respondents to collect the questionnaire from the special letter boxes placed at the neutral locations such as the secretary offices. Thus, employees who were not taking part in the study could not have access to the questionnaires.
- There is a likelihood of getting only socially desirable responses to certain questions. Socially desirable responses occur when questions in a questionnaire are answered in a biased manner so that the researcher will view the responses favourably (Steenkamp, de Jong & Baumgartner 2010). This is seen when they over-report good social behaviours or under-report undesirable social behaviours. In order to avoid such drawbacks, the researcher has stuck to structured questions and remained ethically sensitive when asking questions of social implications. Moreover, the questions have remained neutral and not push respondents in any particular direction.

- The questionnaire does not allow the researcher to interact or observe the respondents. However, this has been viewed as an advantage in disguise in that the less intrusive the questions are and the more anonymous the respondent is, the more honest the responses become.
- Questions or statements in the questionnaire cannot be explained to respondents face-to-face, hence can be misinterpreted. This has been avoided by omitting ambiguous and double-barrelled questions or statements and including overarching introductory statements clearly stating the focus of the questions or statements.

In this study, three experts in questionnaire design in the field of HRD, statistical research and the academic supervisor were consulted to check for the quality of the questionnaire.

3.6.4 Pilot study

As discussed in Section 1.10.1 of Chapter 1, the pilot study provides the feasibility evaluation of time, cost, adverse events, and statistical variability of the proposed large scale main study. Such findings from the pilot study can help in predicting an appropriate sample size and improving upon the study design prior to the performance of a full-scale research project (Groves *et al.* 2013).

The researcher has randomly chosen three different retail bank branches in the western region of Kenya for the pilot study. The target groups for this exercise have consisted of two tellers, two customer care consultants and two line managers from each of the three bank branches (i.e. a total of 18 respondents). The researcher has followed the data collection procedure outlined in section 3.6.1 to administer the pilot questionnaires. Changes were made to the questions where necessary, based on the outputs of the pilot study.

3.6.5 Main study

The main study started three months after the completion of the pilot study and took approximately three months. It also followed the data collection procedure discussed in section 3.6.1. However, this time round the questionnaires were administered to a larger sample of target groups (150 banking tellers, 60 customer care consultants and 90 line managers). The respondents took approximately between 20 and 30 minutes to complete their questionnaires. The response rate from the questionnaires received was in total 237 out of the 300 initially targeted respondents and thus 79% for the overall sample or 68 out of 90 for line managers (76%) and 169 out of 210 for the tellers and customer care consultants (80.5%).

3.6.6 Data capturing

The raw data from the survey responses in the returned usable questionnaires were transferred or captured into the Microsoft Excel and the SPSSv23 packages for further scientific analysis.

3.6.7 Data analysis

Appropriate statistical methods to analyse the data collected to the research question: “which individual employee, organisational and ICT systems based factors that can be identified and empirically investigated in order to determine the extent to which these factors support employees’ learning of the adopted Kenyan retail banking ICT systems before undergoing training” were required. These included descriptive statistics concerning central tendencies such as mean, median, and dispersion of scores in terms of the standard deviation (Motulsky 2010; Dane 2011).

In addition to the descriptive statistics, Exploratory Factor Analysis such as Principal Axis Factoring and Inferential Statistical tests such as the Mann Whitney and Kruskal Wallis tests were conducted. The Exploratory Factor Analysis was conducted to determine the construct validity of each of the individual, organisational, ICT systems and strategies factors. The Inferential Statistical tests were used firstly to determine the statistical significance and strength of the relationship between the individual employee, organisational, ICT systems and strategies factors for each respondent group. Pearson correlation coefficients were used to evaluate the strength and statistical significance of the relationships between the different combinations of the individual employee, organisational, ICT systems and strategies based factors for each respondent group. Secondly, inferential statistical tests were used to determine statistical significant differences between the identified groups with regard to each of the individual employee, organisational, ICT systems and strategies factors.

This section (Section 3.6) provided the discussion on the research methodology. The next section (Section 3.7) presents the design of the questionnaire that will be used in this study.

3.7 QUESTIONNAIRE DESIGN

The researcher has designed two questionnaires (i.e. one for tellers and customer care consultants; and one for line managers) to be used as the data collection instruments. Well-designed questionnaires should collect accurate and reliable information (Awases 2006:109-114; Salkind 2012b; Van Wyk 2016). In order to ensure quality data collection instruments, questions in existing questionnaires from Sambrook (2002), Yoo, Han and Huang (2012) and Makeketa (2013) which measure factors affecting the workplace learning in general have been tailored to measure the specific factors that affect the banking employees' learning of the adopted retail banking ICT systems. Questions on ICT systems factors that collect data on the ICT skills development in general have been derived from the questionnaires in Makhanu (2010) and in Akgun, Lynn, Keskin and Dogan (2014). The researcher has also developed some questions probing learning

individual employee, organisational and ICT systems based factors derived and tailor made from various literature sources (Xu 2010; Yau & Cheng 2011; Nzuve & Omolo 2012; Yueh *et al.* 2013; etc.) to meet specific research objectives defined in the proposed study.

There were a few open-ended statements (i.e. one for all constructs of the individual employee, organisational and ICT systems based factors) and a majority of closed-ended statements (i.e. five for each construct of the individual employee, organisational and ICT systems based factors).

3.7.1 Contents of the questionnaires

The study has two different questionnaires labelled the questionnaire for the tellers and customer care consultants as well as the questionnaire for the line managers. Each questionnaire is divided into six corresponding sections. The scale used throughout the questionnaires is based on the five point Likert-type scale in the order of strongly disagree (SD), disagree (D), neutral (N), agree (A) and strongly agree (SA). The respondents were asked to indicate their level of agreement with structured statements.

Section A: This section contains a list of the main individual employee factors that support learning. The factors include motivation, self-efficacy, time management and attitude. They were grouped as constructs consisting of five statements each and numbered from A.1.0 to A.4.0. These constructs deal with how each factor supports the banking employees' learning of the adopted banking ICT systems before training. Question A.5.0 is an open question which seeks to find any other individual employee factor the respondent deems important.

Section B: This section contains three constructs on ICT systems numbered B.1 to B.3. B.1 asks about the type of banking ICT systems, B.2 ask about the practices that aid learning of banking ICT systems and B.3 asks about banking ICT systems factors that support learning. The ICT systems factors include the perceived quality of information, perceived ease of use, perceived usefulness, perceived security, language used, graphics and computer anxiety. They are grouped in constructs of five statements each

and numbered from B.3.1 to B.3.8. These constructs provide details on how each factor supports the banking employees' learning of the adopted banking ICT systems before attending training. Question B.3.9 is an open question which seeks to find any other banking ICT factor the respondent deems important.

Section C: This section contains a list of the main organisational factors that support learning. The factors include; learning culture, social support, rewards and recognition and job characteristics. They are grouped in constructs of five statements each and numbered from C.1.0 to C.4.0. These constructs explain how each factor supports the banking employees' learning of the adopted banking ICT systems before training. Question C.5.0 is an open question which seeks to find any other organisational factor the respondent deems important.

Section D: This section asks an open-ended question on the factors that support banking employees' learning.

Section E: The section contains suggestions regarding actions that can address the factors that support banking employees' learning of the adopted retail banking ICT systems.

Section F: In this section questions F1 to F8 seeks biographical information on the respondents. This information will be used for comparison purposes. The biographical information sought is on age, gender, level of education, training in ICT systems, job position, the employment status, the period of work experience, the number of training sessions the employees have attended and the knowledge and skills regarding the adopted banking ICT systems.

3.7.2 Validity and reliability of questionnaires

Validity and the reliability of the questionnaire can be ensured by following sound scientific principles in developing the research items, having the instrument evaluated by subject matter experts, through putting it through a pilot test, and once data has been collected, through factor analysis and scale reliability (Kalanda 2012).

The questionnaire is said to be valid if it possess the ability to measure the specific information it is designed for (Awases 2006:115; Khalid, Hilman & Kumar 2012). In a research study, *validity* of questionnaire relates to the cohesion between the theoretical framework, research questions, research methods and findings (Wisker 2009; Herwell 2011; Salkind 2012a).

According to Neuman (2009), Thomas (2010), and Deniz and Alsaffar (2013), there are two main approaches for assessing the validity of instruments designed to collect quantitative data. These are content and construct validity. Content validity is a consensus that a measure represents a particular concept and it involves assessing whether the measure deals with a representative sample of the various aspects of the concept (Dane 2011:142; Deniz & Alsaffar 2013). Khalid *et al.* (2012) describe a questionnaire to be content valid if it actually captures all factors under study and is substantiated by the study. On the other hand, construct validity involves determining the extent to which a measure represents concepts it should represent and does not represent concepts it should not represent (Dane 2011).

The content and construct validity of a questionnaire is assessed through validating the adequacy, appropriateness, inclusiveness, and relevancy of the questions under investigation (Jackson 2011). This study has sought to employ content and construct validity. Validity of the data gathering instrument has been ensured by requesting two experienced academic supervisors and a statistician to provide inputs and make suggestions on the questionnaires' content validity. In addition, a pilot study has been conducted to validate the adequacy, appropriateness, inclusiveness, and relevancy of the questions under investigation. Ambiguous, double-barrelled and problematic questions have be adjusted or left out in the questionnaire. Construct validity has been examined through the use of exploratory factor analysis and is presented in the next chapter.

Wisker (2009), Herwell (2011) and Bryman (2012) assert that *reliability* of a research study prove how detailed are the procedures followed for conducting that study. This

study has tested the reliability (internal consistency) by means of the Cronbach's alpha statistics.

3.8 ETHICAL CONSIDERATIONS

Ethics are mostly associated with morality and deals with issues of right and wrong among groups, society or communities (Hofstee 2006; Biggam 2011; Ball 2012). Basic principles that guide ethical considerations for conducting research have been outlined in section 1.14 of Chapter 1.

In this study, the researcher has taken careful measures to ensure that the study complies with the outlined ethical codes of conduct. Wisker (2009) and Harwell (2011) advise that in the quantitative research study, the number and relevance of questions asked in the questionnaires must be limited and aligned to meet the stated research objectives. In compliance with the ethical considerations, the researcher had to obtain ethical approval from UNISA before conducting the pilot study or the main study. This process entailed completing an ethical approval application form, forwarding the completed form to the College of Economics and Management Science (CEMS) Ethics Committee at the institution (UNISA) through the Human Resource Management (HRM) departmental Research and Ethics Committee. The CEMS Ethics Committee issued an ethical clearance certificate to the researcher. The researcher also received the permission letter from the Senate Research Innovation and Higher Degrees Committee (SRIHC) of the UNISA to request the management of the target retail banks for permission.

The researcher contacted the Regional Managers (RMs) of various retail banks through an email communication channel. The RMs are the most senior representatives of the retail banking institutions at the regional level. The email sought permission to conduct the study in their banks. The researcher attached an introductory letter with the official UNISA letterhead and a letter of permission from the SRIHC of the UNISA, requesting

the RMs for permission to conduct research in target retail banks. The letters precisely stated the purpose of the study, the potential benefits of the study and confidentiality clause concerning the information that will be collected.

When the RMs granted the permission, the Branch Managers (BMs) of the target retail bank branches were contacted to seek permission to conduct the study in their branches. It should be noted that although every effort was made to ensure every targeted bank branch participates in the study, only branches that granted the permission were considered for the study.

When the BMs granted permission, the researcher sent out questionnaires to the target respondents as described in Section 3.6.1, together with additional ethical consideration documents, namely respondent information sheet, consent to participate in the study and request for permission to conduct research. These documents articulated clearly on how the study would address ethical issues such as confidentiality, anonymity, rights to withdraw, informed consent participation and the UNISA research ethics policy.

3.9 SUMMARY

In this chapter, the quantitative research design was discussed. The design allows the respondents to answer research questions that explore and describe a phenomenon. The criteria for selecting the population and sample of banking tellers, customer care consultants and line managers in the target retail bank branches have also been outlined in this chapter. The research method encapsulating the data collection procedure, the use of questionnaires in survey research, pilot and main study as well as briefs on data capturing and analysis were provided. The questionnaire design consisting of content outline, validity and reliability were presented. Lastly, the ethical considerations throughout the study have been outlined in Chapter 3.

The next Chapter 4 will report and discuss the demographic profile of respondents, the level of agreement between respondent groups (the tellers and customer care

consultants as one group and the line managers as the second group) on each of the individual employee, organisational and ICT systems based factors that support learning in the Kenyan retail banks. The chapter further provides the construct validity and reliability: exploratory factor analysis. The chapter also presents the descriptive statistics to determine frequency distributions of the identified constructs and the correlation analysis to determine the relationship between the identified factors for each respondent group.

CHAPTER 4 : DESCRIPTIVE STATISTICS, FACTOR ANALYSIS AND DISCUSSION OF THE RESULTS

4.1 INTRODUCTION

In Chapter 1, the background and overview of the problem statement and the research questions on the identification of the main factors (i.e. individual employee, organisational and ICT systems based factors) that support the learning of retail banking ICT systems before undergoing training were provided. The primary and secondary objectives of the research, the significance, scope of the research and the research methodology were introduced.

Chapter 2 presented the literature review of factors that support the employees' learning of the adopted ICT systems at the workplace before undergoing training. These factors were classified as the individual employee based factors (such as the motivation, self-efficacy, time management and attitude), organisational based factors (such as the learning culture, social support, reward and recognition and job characteristics) and ICT systems based factors (such as the perceived systems quality, perceived ease of use, perceived usefulness and perceived security).

In Chapter 3, the discussions about a quantitative research design, the criteria applied in selecting the population and sample of the target groups and a procedure for data collection were presented. The chapter also described the design of the two questionnaires (the first questionnaire targeted the tellers and customer care consultants as one group and the second questionnaire targeted the line managers as another group) used in the study. The chapter also discussed the validity and reliability of the questionnaires. Finally, the ethical considerations for the research were outlined.

In this chapter (Chapter 4), the descriptive statistics and factor analysis have been reported. In particular, the empirical study objectives answered in the chapter are namely to:

- Determine the level of agreement regarding each of the individual employee, organisational and ICT systems based factors, as perceived by the respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) in the Kenyan retail banks, which affect their learning of the adopted banking ICT systems before undergoing training (Research objective 1).
- Determine the level of agreement regarding each of the strategy factors as perceived by the respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) in the Kenyan retail banks that can optimally address the factors that support learning of the adopted banking ICT systems before undergoing training (Research objective 2).

The statistical results/findings of the study have been reported in this chapter as follows:

- Reporting on the demographic profile of the respondents.
- Reporting on the descriptive statistics that show the level of agreement with regard to the factors as perceived by the two respondent groups.
- Reporting on the open questions in the questionnaires.
- Reporting on the results of the exploratory factor analysis which was conducted to assess the construct validity of the individual employee, organisational, ICT systems and strategy factors. The study also reports on the Cronbach's alpha coefficients (internal consistency reliability) of each of the factors identified during the exploratory factor analysis.
- Reporting further on the descriptive statistics which include the means, standard deviations, frequency distribution, kurtosis and skewness for each of the identified factors. The descriptive statistics will be analysed to answer research objectives 1 and 2.

4.2 DEMOGRAPHIC PROFILE OF RESPONDENTS FROM THE QUESTIONNAIRES

The demographical information regarding the respondents was obtained from Section F of the questionnaires. The demographical characteristics included the respondents' gender, age, highest level of education, training in ICT systems, employment status, period of working experience with the banking ICT systems, number of workshops, seminars, conferences or programmes that have been attended over the last two years related to the learning of the banking ICT systems as well as their status of knowledge and skills in the banking ICT systems. These demographical characteristics were believed to impact on the perceptions of the respondents with regard to the factors that affect employees' learning of the adopted banking ICT systems.

The first step was to determine the distribution of the respondents across the categories of each of the demographical characteristics. The results of frequency distribution can be illustrated in a tabular or graphic layout. The tables and graphs expose the patterns and trends in the responses and also make it easier to determine the meaning and the implication of these patterns and trends. Bordens and Abbott (2014) write that the descriptive statistics can assist the researcher to discover hidden yet important patterns in the data that may shed further light on the research problem that need to be resolved.

4.2.1 Gender

The gender of the respondents was the first demographic variable to be reported. The percentages of the results are shown in Figure 4.1.

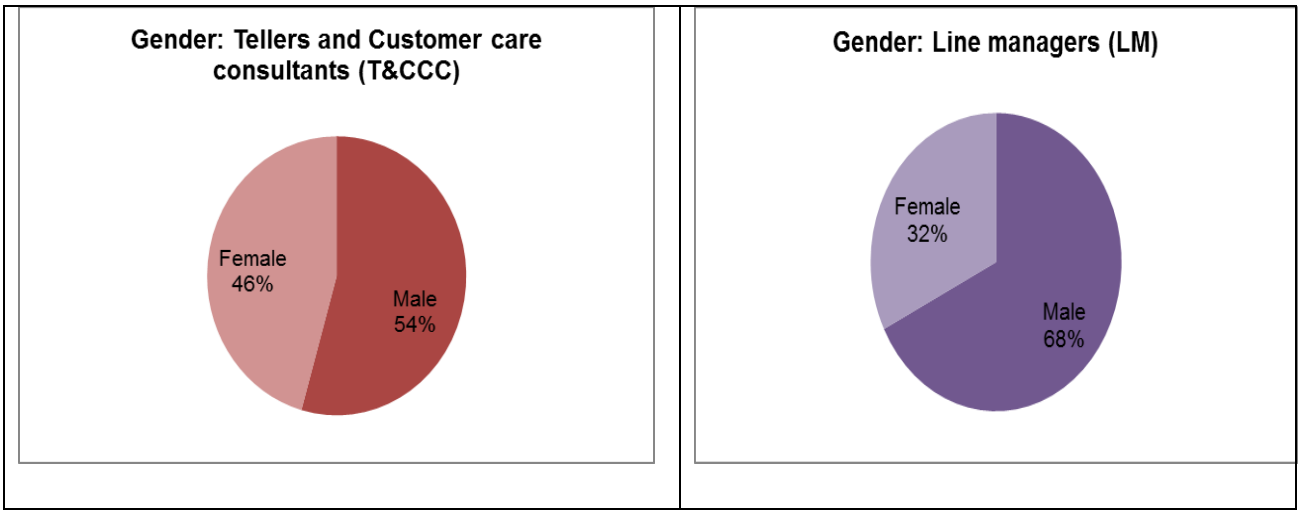


Figure 4.1: Gender distribution (% of the respondents)

The data in Figure 4.1 revealed that the majority of retail banking employees was males (54% for tellers and customer care consultants and 68% for line managers) as compared with females (46% for tellers and customer care consultants and 32% for line managers). More specifically, there were fewer females in the line management positions than in the tellers and customer care consultants' positions. The results on fewer females on the management positions confirmed the research-based study findings by Wesutsa (2012) that the Kenyan commercial banks were still male dominated.

4.2.2 Age

The age distribution of the respondents is shown in Figure 4.2. The results showed that 91.1% of tellers and customer care consultants and 60.3% of line managers were 40 years and below. The employees aged 40 years and below could be described as active and dynamic in the workplace. Given an environment that is conducive to learn, most employees in this age group would be keen to learn the adopted ICT systems in order to secure their careers.

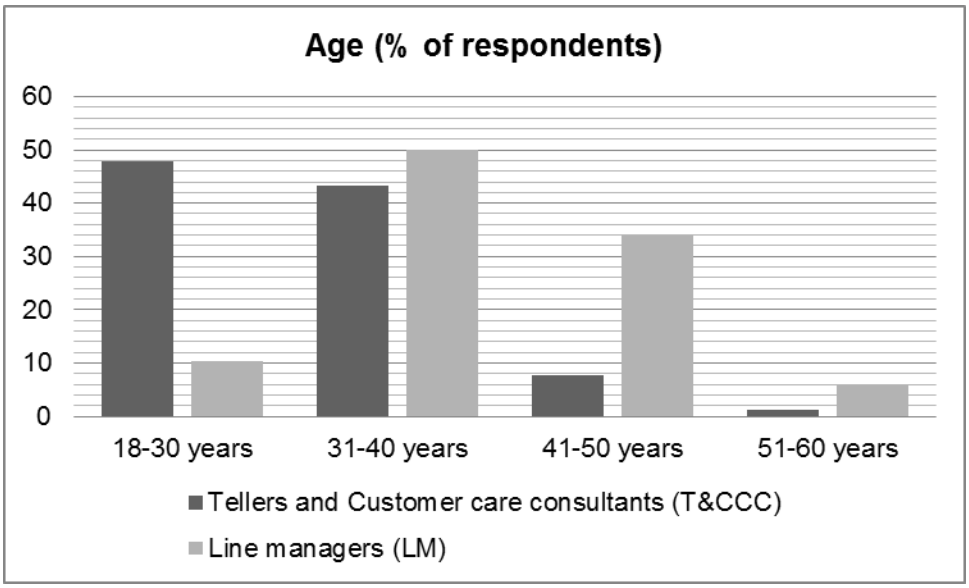


Figure 4.2: Age of the respondent groups (% of the respondents)

The age distribution of the two groups of respondents showed that the line managers were older than the tellers and customer care consultants. This is normal as one needs working experience to reach the management level. The distribution of age also confirmed that there would probably not be any age-related bias among the respondents.

4.2.3 Highest level of education

The study considered it appropriate to find the distribution of the respondents with regard to their academic qualifications. The results are shown in Figure 4.3.

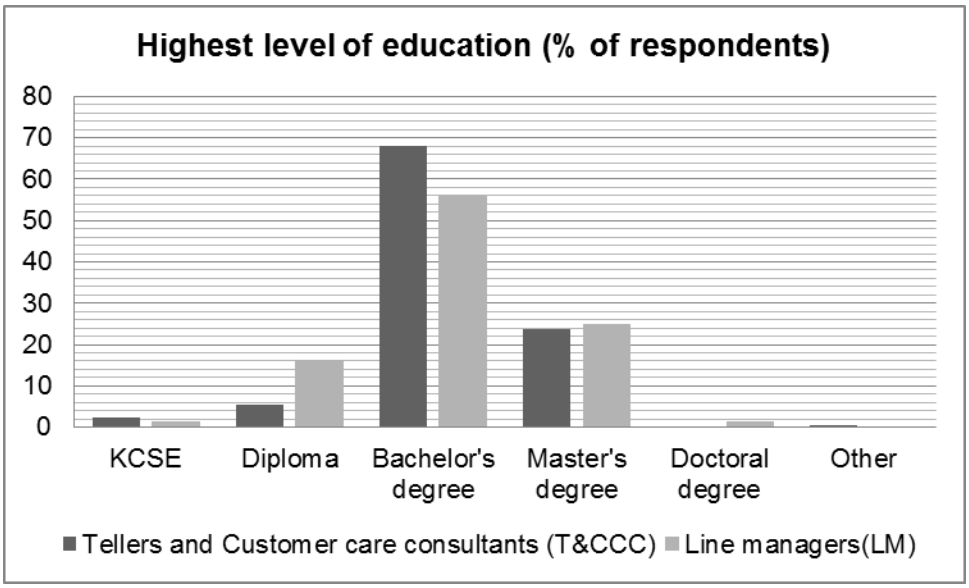


Figure 4.3: Highest level of education of the respondent groups (% of the respondents)

A majority of retail banking employees (68% of tellers and customer care consultants, and 55.9% of the line managers) reported to have a bachelor's degree as their highest level of education. The high number of tellers and customer care consultants with a bachelor's degree may be as a result of being young with little experience or limited employment opportunities. It is however, discouraging to learn that only a quarter (25%) of the line managers had master's degree and only 1.5% have a doctorate. This shows that a majority of the managers rely hugely on experience and not competency when they offer coaching services to their team of employees. Froehlich, Segers and Van den Bossche (2014) emphasise the importance of the managers to be well educated in order to offer excellent coaching to their junior employees. The results showed that almost all the respondents (97.6% of tellers and customer care consultants and 98.5% of the line managers) had at least a post-secondary school certificate hence were competent to learn on their own based on their learning experience.

4.2.4 Highest level of training in ICT

Figure 4.4 shows the distribution of the respondents with regard to their highest level of training in ICT.

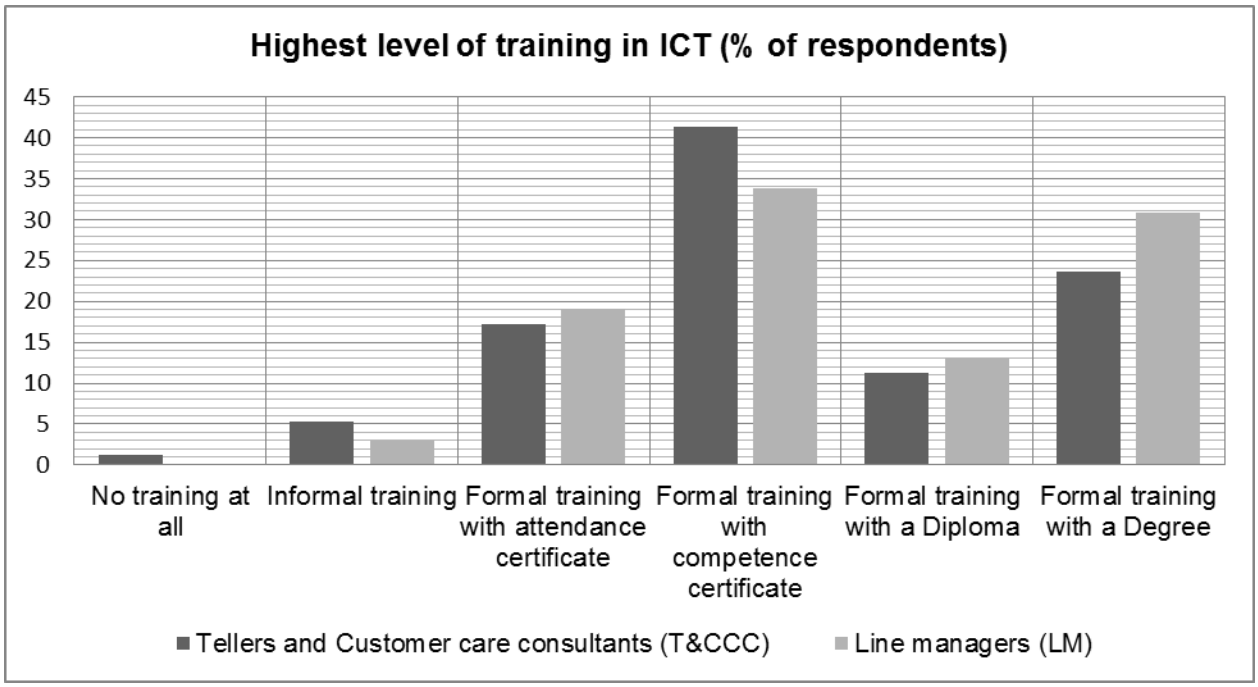


Figure 4.4: Highest level of training in ICT (% of the respondents)

From the responses, it was evident that the banking organisations' recruiting policies put emphasis on training in ICT as at least 97.8% of the employees were trained in ICT (That is, about 1% of tellers and customer care consultant had no training at all, 5% had informal training, 17% had formal training with an attendance certificate, 41% had training with a competence certificate, 6% had training with a diploma and 28.8% had training with a degree). It was also encouraging to note that over three quarters of the line managers (77.9%) had at least a competence certificate in ICT. The recorded high percentage of the line managers with at least competence certificate in ICT in the Kenyan retail banks agree with the suggestion made by Mai (2012) that managers need to be competent in ICT so as to support their subordinate staff to learn the adopted ICT systems at the workplace.

4.2.5 Job position of tellers and customer care consultants in the organisation

The study has presented the distribution of the job position of the tellers and customer care consultants in Figure 4.5.

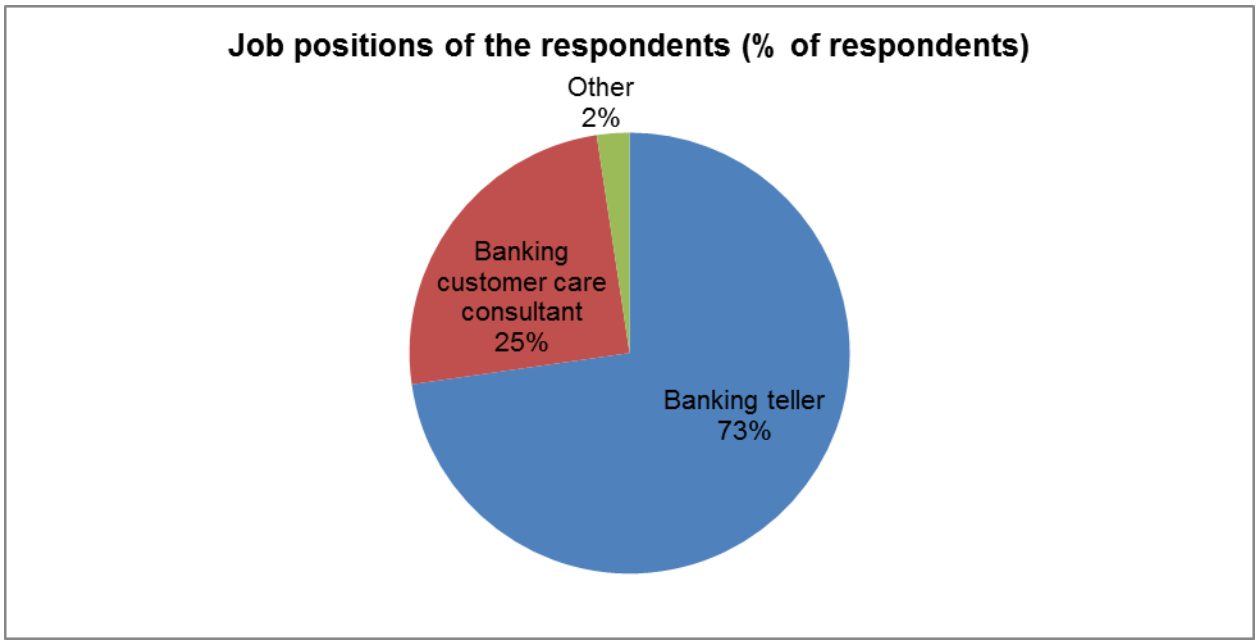


Figure 4.5: Job positions (% of the respondents)

The results showed that almost three quarters (73%) of the respondents were banking tellers. The high proportion of the banking tellers may imply that they are the majority of the banking employees with a core responsibility of serving the retail customers directly within the retail banking institutions.

4.2.6 Employment status

Figure 4.6 shows the distribution of respondents with regard to their employment status.

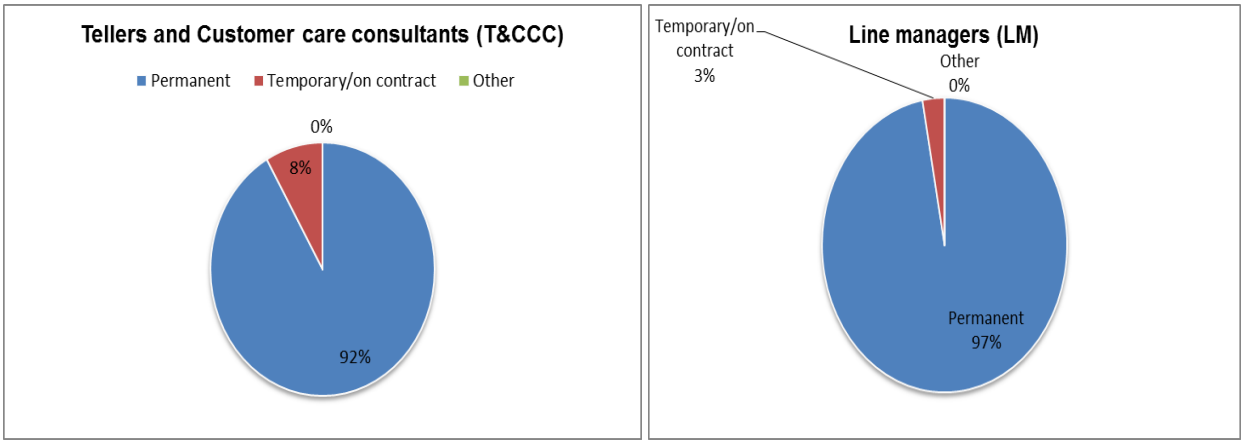


Figure 4.6: Employment status of the respondents (% of the respondents)

The responses from the respondents showed a high number of the employees to be on permanent employment terms (92% for tellers and customer care consultants and 97% for line managers). The permanent employment status implies a high job security and consequently an employee job engagement (Schuchmann & Seufert 2015). Employees that have high job security are likely to undertake workplace learning of the adopted banking ICT systems so as to increase their job performance and career growth (Seraphim 2010; Wanyama & Mutsotso 2010).

4.2.7 Period of working experience with banking ICT systems

The period of working experience with banking ICT systems among the respondents has been depicted in Figure 4.7.

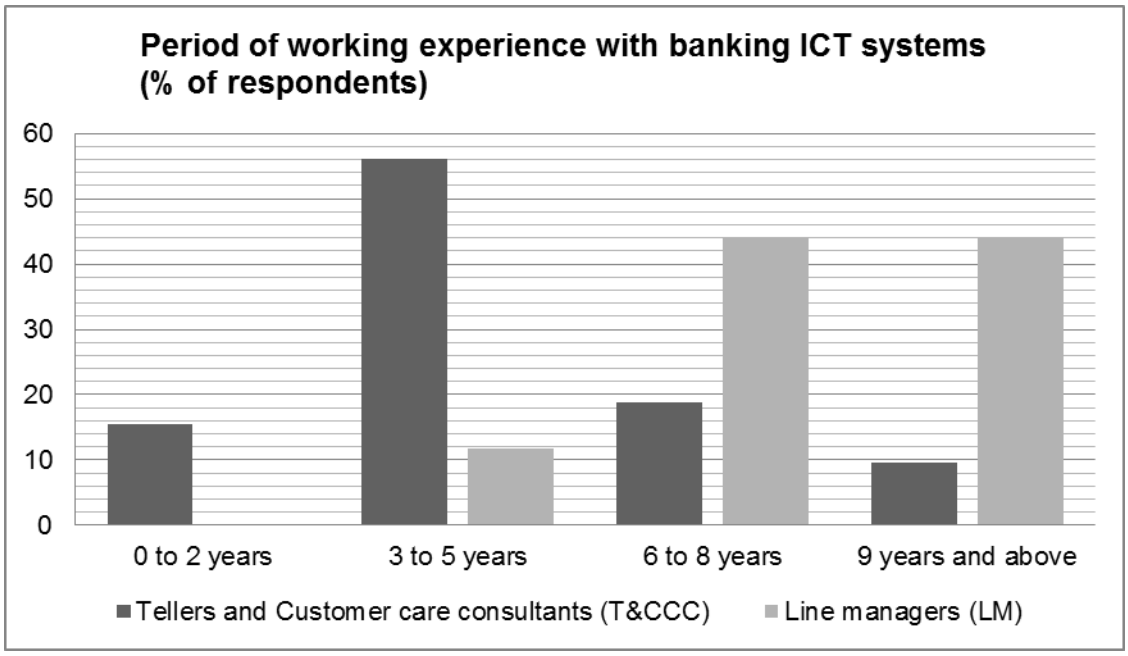


Figure 4.7: Period of working experience with banking ICT systems (% of the respondents)

Almost three quarters of the tellers and customer care consultants (71.6%) had five or less years of working experience with banking ICT systems, while a majority of the line managers (88.2%) had six or more years of working experience with the banking ICT systems. The increased years of working experience with the banking ICT systems may encourage the line managers to train their subordinates (i.e. the tellers and customer care consultants).

4.2.8 Number of banking ICT systems related training programmes, workshops, seminars, or conferences attended over the last two years

It was necessary to ascertain whether the respondents had opportunities for further training in ICT. Figure 4.8, has presented the number of banking ICT systems related training programmes, workshops, seminars, or conferences attended over the last two years.

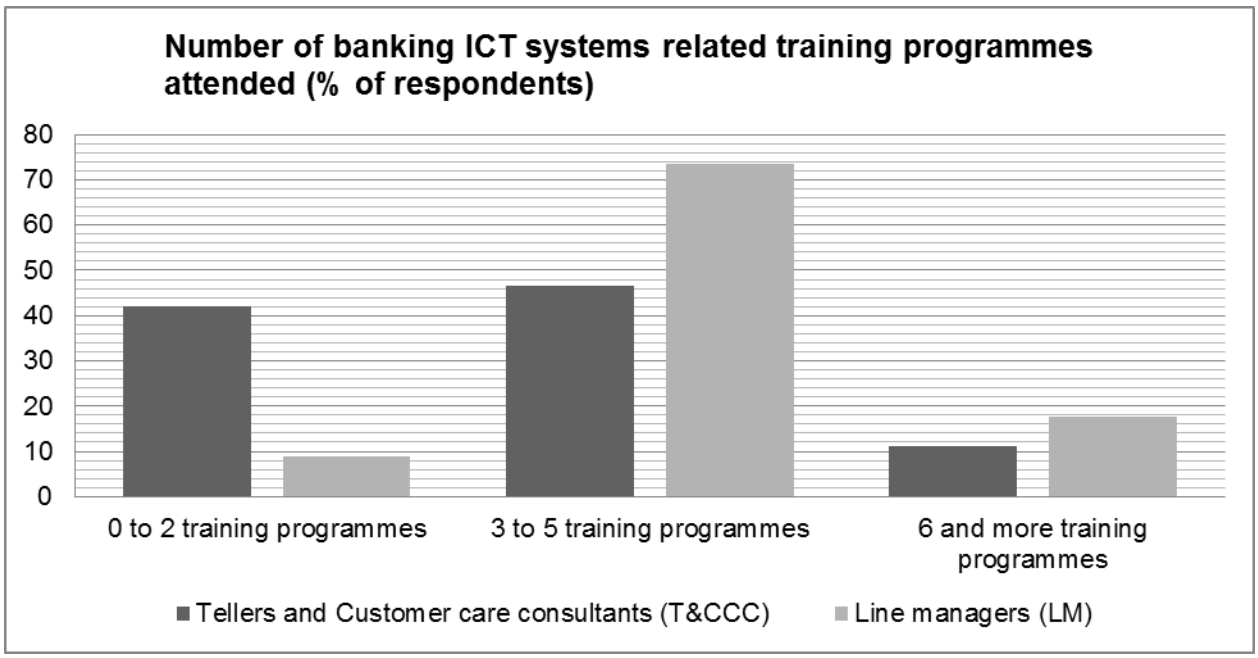


Figure 4.8: Number of training programmes attended (% of the respondents)

The responses showed that 57.9% and 91.2% respectively, of the tellers and customer care consultants group and line managers group had attended more than two training programmes or workshops or seminars or conferences within the last two years. These results concur with the premise that the line managers are often required by their organisations to offer supportive learning strategies to their subordinates (Lancaster *et al.* 2013; Pinder 2016). Examples of supportive learning strategies that the line managers can apply include supplying their team of employees with sufficient and familiar learning materials and in some cases training their subordinate staff before a formal training programme is organised.

4.2.9 Status of knowledge and skills in banking ICT systems of line managers

The status of knowledge and skills amongst the line managers is shown in Figure 4.9. These statements were measured on a five point Likert-type scale in the order of strongly disagree (SD), disagree (D), neutral (N), agree (A) and strongly agree (SA).

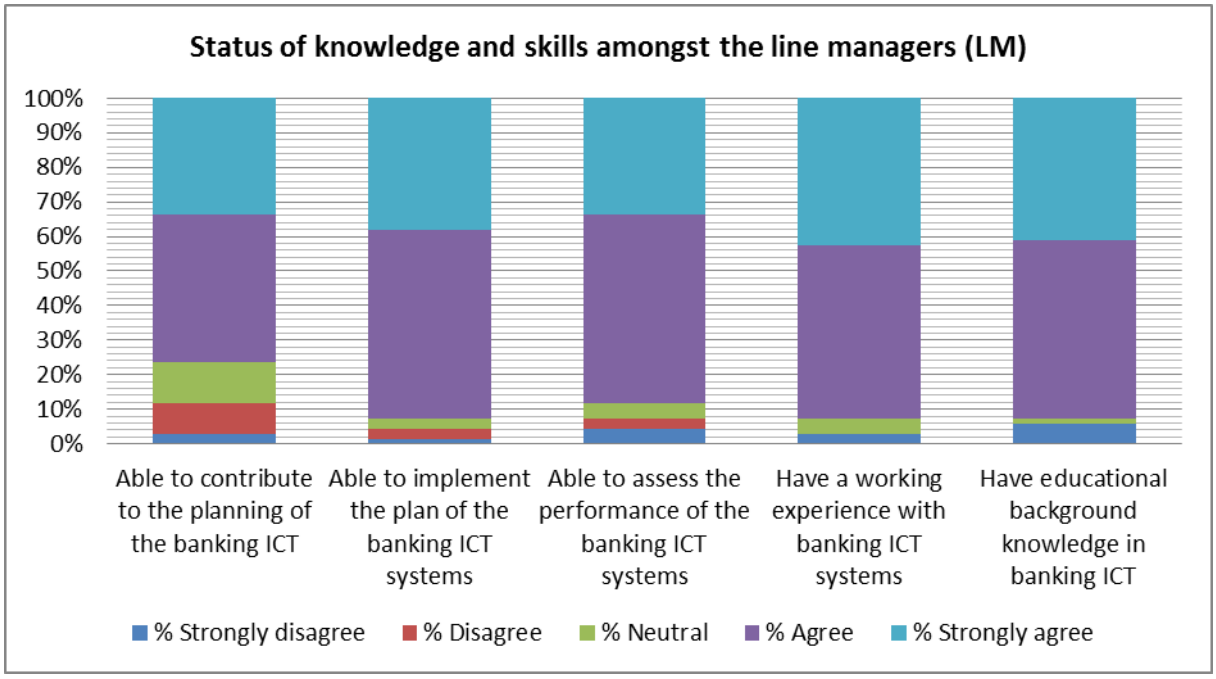


Figure 4.9: Status of knowledge and skills in banking ICT systems amongst the line managers (% of the respondents)

These statements were meant to ascertain whether the line managers were competent to identify the learning needs of their team of employees with regard to the adopted banking ICT systems. The statements also sought to know whether the line managers could coach their employees in the adopted ICT systems. More than three quarters of the line managers agreed or strongly agreed that they were able to: contribute to the planning of the banking ICT systems (76.4%); implement the laid down plans about the banking ICT systems (92.6%) and assess the performance of the adopted banking ICT systems (88.2%). The responses further showed that a vast majority of the line managers agreed or strongly agreed that they: had a working experience with similar systems (92.6%) and had educational background in banking ICT systems to back their skills (92.7%). Thus a majority of line managers indicated that they were competent to identify the learning needs of their team of employees.

Section 4.2 has discussed the demographic profile of respondents from the two questionnaires. Section 4.3 will present the level of agreement with respect to each of the factors investigated from the two questionnaires.

4.3 LEVEL OF AGREEMENT REGARDING EACH OF THE FACTORS

Sections A, B.3 and C of the questionnaire that targeted the tellers and customer care consultants (T&CCC) aimed at determining their level of agreement with regard to each of the factors they perceived to affect their learning of the adopted banking ICT systems before undergoing training. Similarly, Sections A, B.3 and C of the questionnaire that targeted the line managers (LM) aimed at determining the level of agreement with regard to each of the factors perceived to affect the majority of their team of employees' learning of the adopted banking ICT systems before undergoing training. Section E of the two questionnaires sought to determine the level of agreement with regard to the suggested strategies that can optimally address the factors that support learning as perceived by the two respondent groups. In order to determine these levels of agreement, a 5 point Likert type of scale that ranged from strongly disagree (1) to strongly agree (5) was used.

However, for the convenience of reporting in this section 4.3.1, the respondents' level of agreement with regard to each of the factors was grouped into three categories. The Likert points of strongly disagree (1) and disagree (2) formed the first category; neutral (3) point formed the second category; and agree (4) and strongly agree (5) formed the third category. The researcher presented the three categories of responses received about the level of agreement with each of the five (5) statements for every factor, graphically. In addition, the responses to each statement by the two respondent groups were plotted side by side on the same axis of the graph for an easy comparison. The percentages of the third category (agree and strongly agree) were used to report the respondents' level of agreement.

4.3.1 Individual employee factors

The results in this section (Section 4.3.1) showed the level of agreement between tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the

perceived individual employee factors that affect the employees' learning of the adopted banking ICT systems before attending training.

4.3.1.1 Motivation

From Table 4.1, Figure 4.10 was plotted to show showing the level of agreement in percentages (%) between tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the perceived motivation factor that affects the employees' learning of the adopted banking ICT systems before attending training.

Table 4.1: Statements on the perceived motivation factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	Learning the adopted ICT systems:		***Horizontal Axis***	For the majority of my team of employees, learning the adopted ICT systems:
A1.1T&CCC	Enables me to improve on my job performance.		A1.1LM	Enables them to improve their job performance.
A1.2T&CCC	Is interesting.		A1.2LM	Is interesting.
A1.3T&CCC	May lead me to a job promotion.		A1.3LM	May lead to a job promotion for them.
A1.4T&CCC	Motivates me to develop my ICT skills.		A1.4LM	Motivates them to develop their ICT skills.
A1.5T&CCC	Creates in me a self-initiated approach to work related learning.		A1.5LM	Creates in them a self-initiated approach to work related learning.

From Table 4.1, Figure 4.10 has been plotted showing the level of agreement in percentages (%) between tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the perceived motivation factor that affects the employees' learning of the adopted banking ICT systems before attending training.

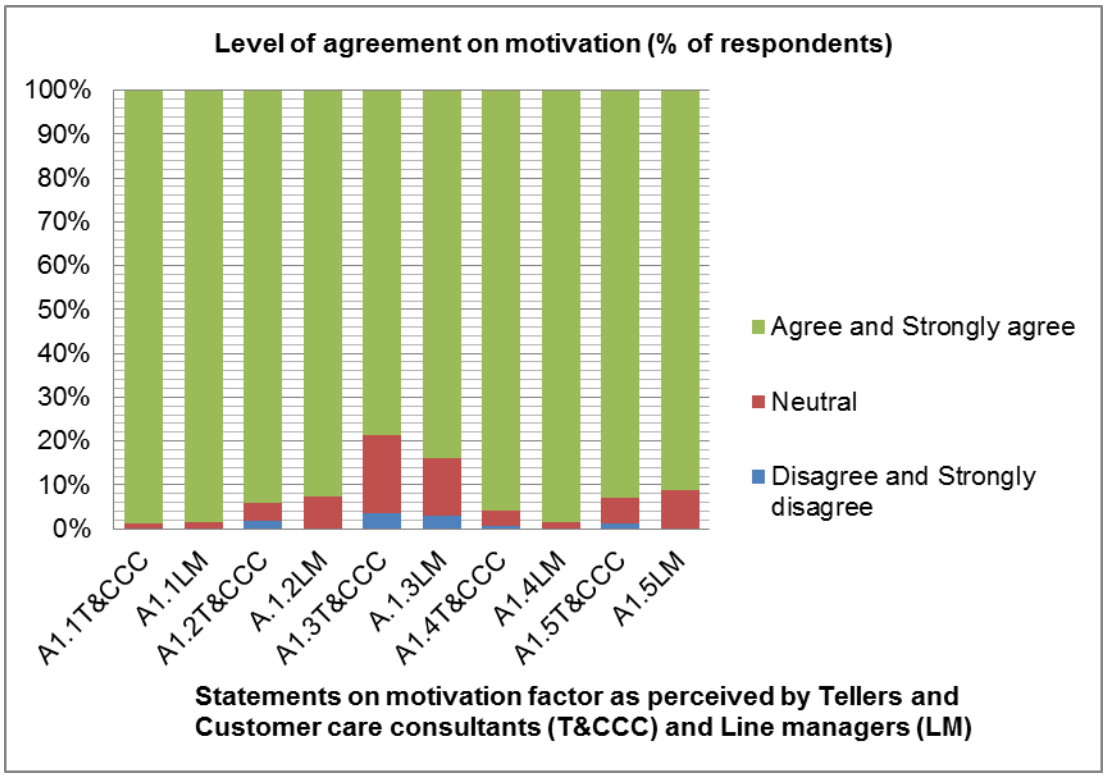


Figure 4.10: Level of agreement on motivation factor for the T&CCC and LM

According to Figure 4.10, almost all the tellers and the customer care consultants showed their overwhelming agreement with the statements under the motivation factor. They perceived that learning the adopted ICT systems: enabled them to improve on their job performance (98.9%); was interesting (94.1%); might lead them to a job promotion (78.7%); motivated them to develop their ICT skills (94.1%) and created in them a self-initiated approach to work related learning (92.9%).

Similarly, the line managers were in agreement too as depicted in Figure 4.10. They perceived that for the majority of their team of employees, learning the adopted ICT systems: enabled them to improve on their job performance (98.5%); was interesting (92.7%); might lead to a job promotion for them (83.8%); motivated them to develop their ICT skills (98.6%) and created in them a self-initiated approach to work related learning (91.2%).

This might mean that the majority of the tellers and the customer care consultants had a psychological force that energised, directed and sustained their effort towards the

learning of the adopted ICT systems. The results concurred with the studies by Haller (2014) and Buchanan *et al.* (2016).

4.3.1.2 Self-Efficacy

The Table 4.2 shows the statements under the self-efficacy factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants as the first group and the line managers as the second group.

Table 4.2: Statements on the perceived self-efficacy factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	I am:		***Horizontal Axis***	The majority of my team of employees is:
A2.1T&CCC	Confident in my ability to learn the adopted ICT systems.		A2.1LM	Confident in their ability to learn the adopted ICT systems.
A2.2T&CCC	Able to recognise learning opportunities that come my way.		A2.2LM	Able to recognise learning opportunities that come their way.
A2.3T&CCC	Able to use the adopted ICT systems on my own.		A2.3LM	Able to use the adopted ICT systems on their own.
A2.4T&CCC	Confident about my knowledge and skills in ICT systems.		A2.4LM	Confident about their knowledge and skills in ICT systems.
A2.5T&CCC	Confident about using any of the technical functions of the adopted ICT systems.		A2.5LM	Confident about using any of the technical functions of the adopted ICT systems.

From the Table 4.2, Figure 4.11 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the perceived self-efficacy factor that affect the employees' learning of the adopted banking ICT systems before attending training.

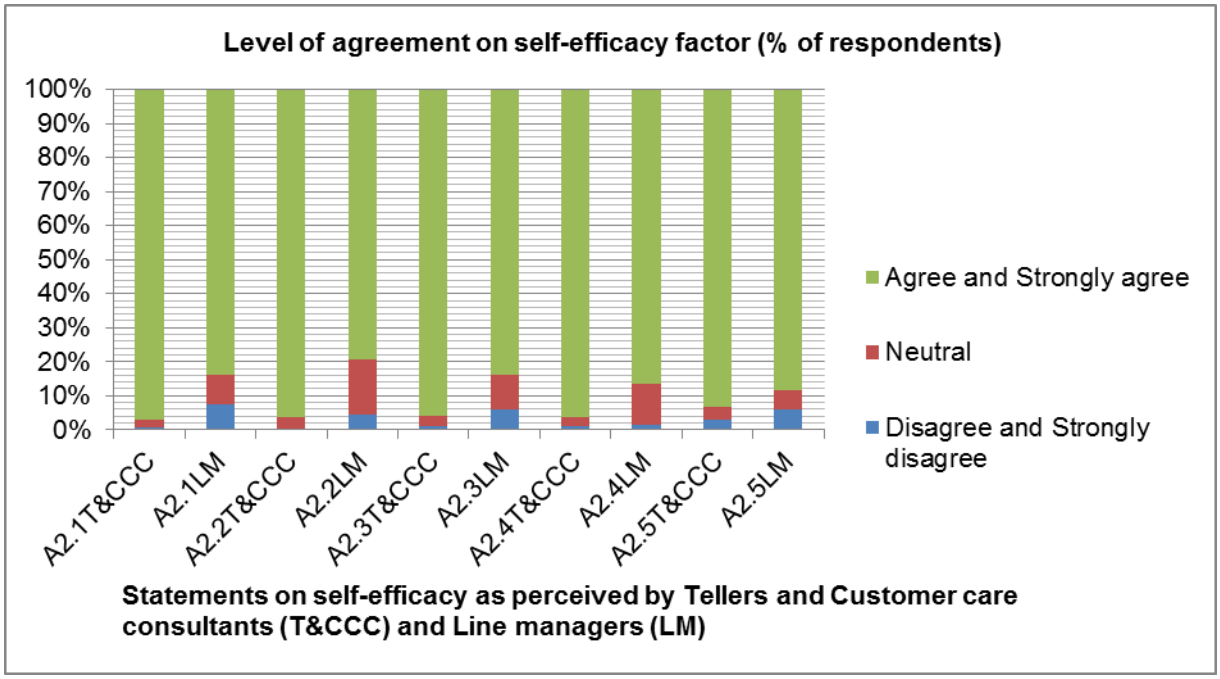


Figure 4.11: Level of agreement on self-efficacy factor for the T&CCC and LM.

The statements under this factor also received a high level of agreement. The tellers and the customer care consultants (T&CCC) were: confident in their ability to learn the adopted ICT systems (97%); able to recognise learning opportunities that came their way (96.5%); able to use the adopted ICT systems on their own (95.9%); confident about their knowledge and skills in ICT systems (96.4%) and confident about using any of the technical functions of the adopted ICT systems (93.5%).

The line managers (LM) perceived the majority of their team of employees to be: confident in their ability to learn the adopted ICT systems (83.8%); able to recognise learning opportunities that came their way (79.4%); able to use the adopted ICT systems on their own (83.8%); confident about their knowledge and skills in ICT systems (86.7%) and confident about using any of the technical functions of the adopted ICT systems (88.3%).

The high percentages shown above might mean that the T&CCC were able to succeed in learning the adopted ICT systems regardless of the odds they might face. The results were in agreement with the findings reported by Cho and Kim (2016).

4.3.1.3 Time management

The Table 4.3 shows the statements under the time management factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.3: Statements on the perceived time management factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	I:		***Horizontal Axis***	The majority of my team of employees:
A3.1T&CCC	Am able to manage my own time to learn the adopted ICT systems.		A3.1LM	Is able to manage their own time to learn the adopted ICT systems.
A3.2T&CCC	Am able to identify free time when at work.		A3.2LM	Is able to identify free time when at work.
A3.3T&CCC	Take plenty of time to learn the adopted ICT systems.		A3.3LM	Takes plenty of time to learn the adopted ICT systems.
A3.4T&CCC	Have sufficient time to learn the adopted ICT systems.		A3.4LM	Has sufficient time to learn the adopted ICT systems.
A3.5T&CCC	Use time on-the-job created by my organisation to learn adopted ICT systems.		A3.5LM	Uses time on-the-job created by our organisation to learn the adopted ICT systems.

From the Table 4.3, Figure 4.12 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the perceived time management factor that affect the employees' learning of the adopted banking ICT systems before attending training.

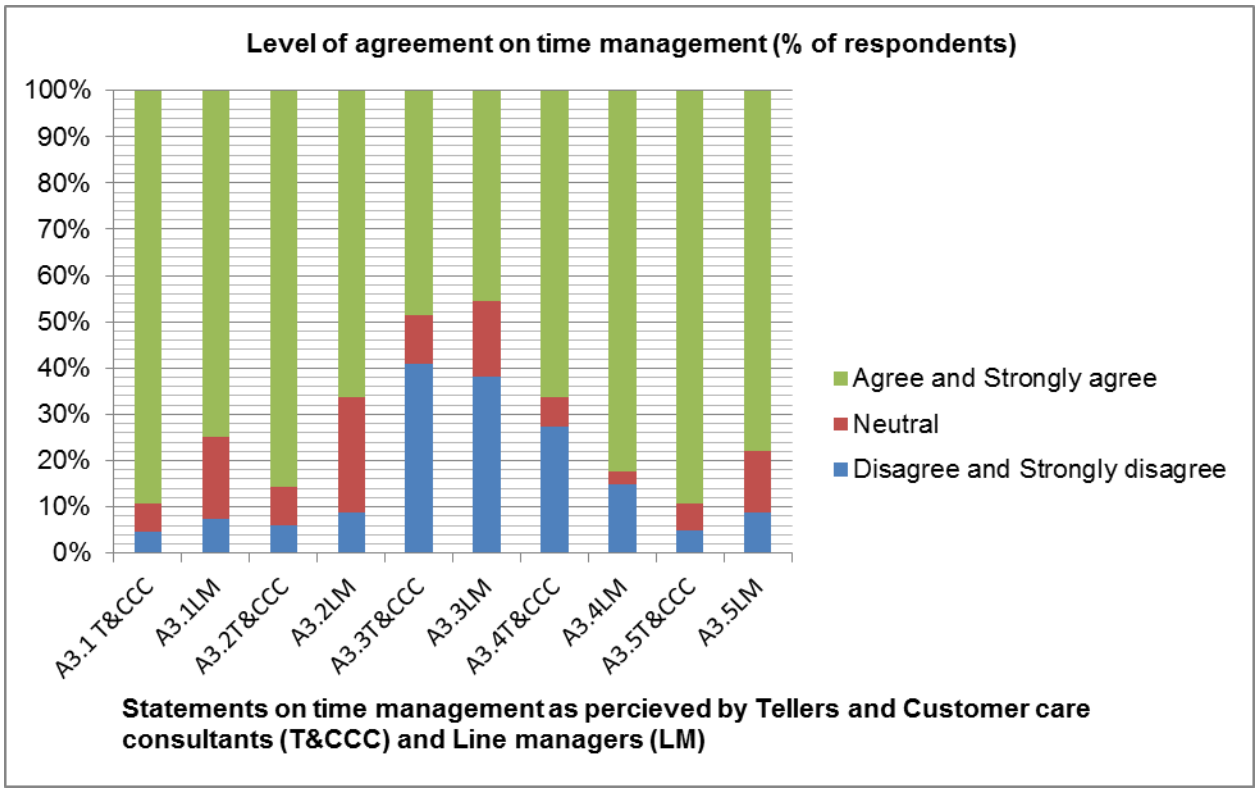


Figure 4.12: Level of agreement on time management factor for the T&CCC and LM.

The majority of tellers and the customer care consultants (T&CCC) were able to: manage their own time to learn the adopted ICT systems (89.4%); identify free time when at work (85.8%) and use time on-the-job created by their organisation to learn the adopted ICT systems (89.3%). However, less than half and just about two thirds of the respondents respectively, agreed that they took plenty of time to learn the adopted ICT systems (48.5%) and had sufficient time to learn the adopted ICT systems (66.2%).

The line managers (LM) perceived that the majority of their team of employees were able to: manage their own time to learn the adopted ICT systems (75%); identify free time when at work (66.2%) and use time on-the-job created by their organisation to learn the adopted ICT systems (77.9%). The line managers also perceived that the majority of their team of employees had sufficient time to learn the adopted ICT systems (82.3%). However, only 45.6% of the line managers perceived that the majority of their team of employees took plenty of time to learn the adopted ICT systems. These results may imply that the tellers and customer care consultants have a set of habits or learnable

behaviours that involve appropriate use of the available time in order to pursue learning activities. These employees might have acquired the appropriate time management behaviour through increased knowledge, training or deliberate practice.

4.3.1.4 Attitude

The Table 4.4 shows the statements under the attitude factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.4: Statements on the perceived attitude factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	I:		***Horizontal Axis***	The majority of my team of employees:
A4.1T&CCC	Perform my job tasks better when I learn the adopted ICT systems.		A4.1LM	Performs their job tasks better when they learn the adopted ICT systems.
A4.2T&CCC	Have a positive attitude towards my learning of the adopted ICT systems.		A4.2LM	Has a positive attitude towards their learning of the adopted ICT systems.
A4.3T&CCC	Strive to be more efficient at work through learning more of the adopted ICT systems.		A4.3LM	Strives to be more efficient at work through learning more of the adopted ICT systems.
A4.4T&CCC	Take an active approach to my work related learning.		A4.4LM	Takes an active approach to their work related learning.
A4.5T&CCC	Am motivated by my prior ICT skills to learn the adopted ICT systems.		A4.5LM	Is motivated by their prior ICT skills to learn the adopted ICT systems.

From the Table 4.4, Figure 4.13 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the perceived attitude factor that affect the employees' learning of the adopted banking ICT systems before attending training.

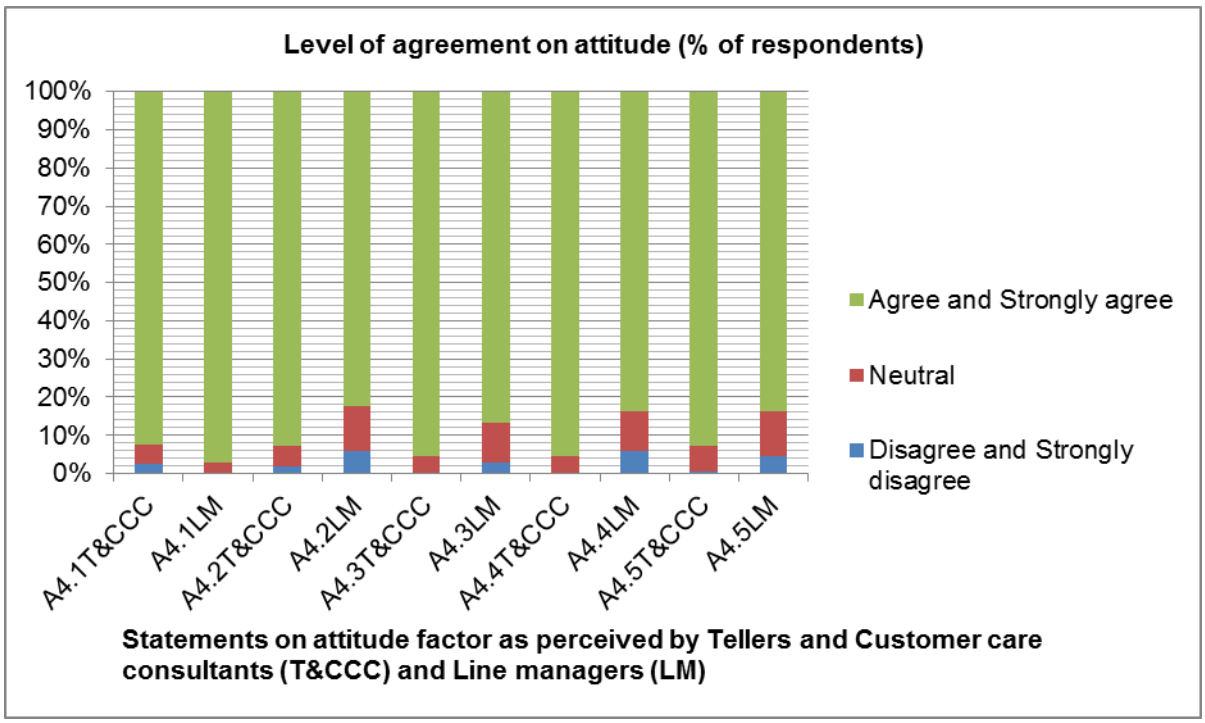


Figure 4.13: Level of agreement on attitude factor for the T&CCC and LM.

The large majority of the tellers and the customer care consultants: performed their job tasks better when they learned the adopted ICT systems (92.3%); had a positive attitude towards their learning of the adopted ICT systems (92.9%); strove to be more efficient at work through learning more of the adopted ICT systems (95.3%); took an active approach to their work related learning (95.3%) and were motivated by their prior ICT skills to learn the adopted ICT systems (92.9%).

According to the line managers, the majority of their team of employees: performed their job tasks better when they learned the adopted ICT systems (97.1%); had a positive attitude towards their learning of the adopted ICT systems (82.3%); strove to be more efficient at work through learning more of the adopted ICT systems (86.8%); took an active approach to their work related learning (83.8%) and were motivated by their prior ICT skills to learn the adopted ICT systems (83.8%).

These results may mean that the majority of the tellers and the customer care consultants thought, felt and behaved positively towards the adopted banking ICT

systems. The right attitude towards ICT positively affects employees' intention to learn the technology (Simon 2014; Al-Ajam & Nor 2015).

4.3.2 Banking ICT systems factors

The following results show the level of agreement between tellers and customer care consultants (as group 1) and the line managers (as group 2) with regard to the perceived banking ICT systems factors that affect the employees' learning of the adopted banking ICT systems before attending training.

4.3.2.1 Perceived quality of information

The Table 4.5 shows the statements under the quality of information factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.5: Statements on the perceived quality of information factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	The information on the adopted ICT systems:		***Horizontal Axis***	For the majority of my team of employees, the information on the adopted ICT systems:
B3.1.1T&CCC	Is relevant to learn.		B3.1.1LM	Is relevant to learn.
B3.1.2T&CCC	Is accurate to learn.		B3.1.2LM	Is accurate to learn.
B3.1.3T&CCC	Can be easily understood.		B3.1.3LM	Can be easily understood.
B3.1.4T&CCC	Is complete to learn.		B3.1.4LM	Is complete to learn.
B3.1.5T&CCC	Is interesting to read.		B3.1.5LM	Is interesting to read.

From the Table 4.5, Figure 4.14 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) and the line

managers (LM) with regard to the perceived quality of information factor that affect the employees' learning of the adopted banking ICT systems before attending training.

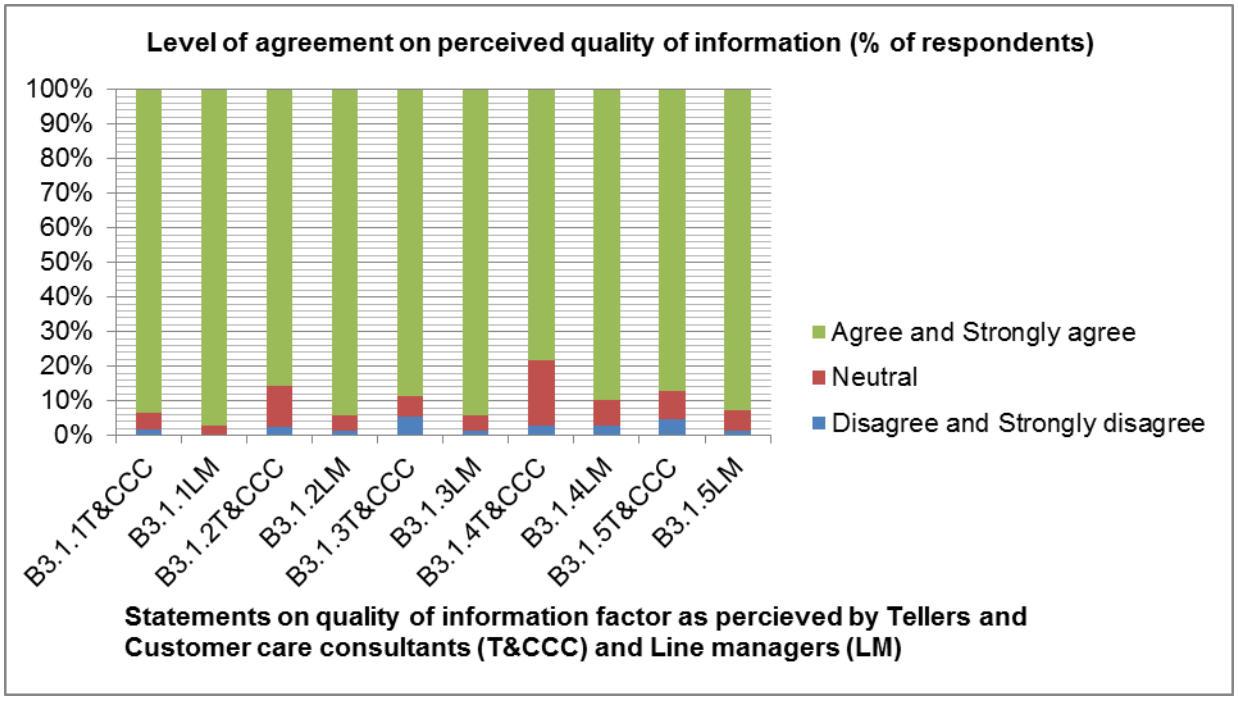


Figure 4.14: Level of agreement on perceived quality of information factor for the T&CCC and LM.

For the large majority of the tellers and customer care consultants, the information on the adopted ICT systems: was relevant to learn (93.5%); was accurate to learn (85.8%); could be easily understood (88.7%); was complete to learn (78.1%) and was interesting to read (87%).

A majority of the line managers perceived that for the majority of their team of employees, the information on the adopted ICT systems: was relevant to learn (97%); was accurate to learn (94.1%); could be easily understood (94.1%); was complete to learn (89.7%) and was interesting to read (92.6%).

The percentages above confirmed that the adopted ICT systems offered quality information. An ICT system is said to have quality information if the information is

accurate, complete, and easy to understand and is relevant (Chiu *et al.* 2007; Chen 2010; Wong *et al*. 2012).

4.3.2.2 Perceived quality of the ICT systems

The Table 4.6 shows the statements under the quality of the ICT systems factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.6: Statements on the perceived quality of the ICT systems factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	The adopted ICT systems:		***Horizontal Axis***	For the majority of my team of employees, the adopted ICT systems:
B3.2.1T&CCC	Are reliable to perform my job tasks.		B3.2.1LM	Are reliable to perform their job tasks.
B3.2.2T&CCC	Are flexible to use.		B3.2.2LM	Are flexible to use.
B3.2.3T&CCC	Have a fast response when given the right command.		B3.2.3LM	Have a fast response when given the right command.
B3.2.4T&CCC	Are sustainable.		B3.2.4LM	Are sustainable.
B3.2.5T&CCC	Have clear instructions to follow.		B3.2.5LM	Have clear instructions to follow.

From the Table 4.6, Figure 4.15 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the perceived quality of the ICT systems factor that affect the employees' learning of the adopted banking ICT systems before attending training.

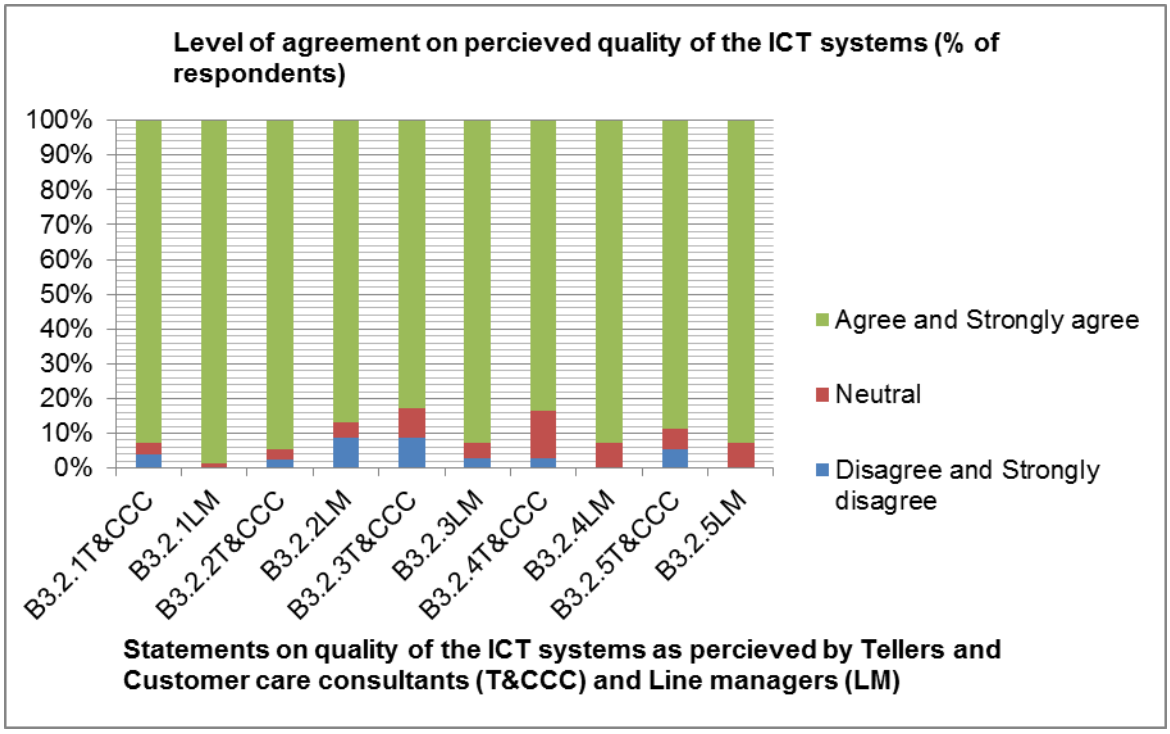


Figure 4.15: Level of agreement on perceived quality of the ICT systems factor for the T&CCC and LM.

For the majority of the tellers and the customer care consultants, the adopted ICT systems: were reliable to perform their job tasks (92.9%); were flexible to use (94.6%); had a fast response when given the right command (82.8%); were sustainable (83.4%) and had clear instructions to follow (88.8%).

According to a majority of the line managers, for the majority of their team of employees, the adopted ICT systems: were reliable to perform their job tasks (97.1%); were flexible to use (86.8%); had a fast response when given the right command (92.6%); were sustainable (92.7%) and had clear instructions to follow (92.7%).

The responses showed that the adopted banking ICT systems had a high degree of quality. This is because an ICT system is regarded to be quality according to its functionality, performance, ease of operation, reliability, flexibility, responsiveness, stability and accessibility (Chiu *et al.* 2007; Chen 2010; Lee 2010; Teo 2010; Wu *et al.* 2010; Bhuasiri *et al.* 2012; Wong *et al.* 2012).

4.3.2.3 Perceived ease of use

The Table 4.7 shows the statements under the perceived ease of use factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.7: Statements on the perceived ease of use factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	The adopted ICT systems:		***Horizontal Axis***	For the majority of my team of employees, the adopted ICT systems:
B3.3.1T&CCC	Use understandable terms.		B3.3.1LM	Use understandable terms.
B3.3.2T&CCC	Are easy to use.		B3.3.2LM	Are easy to use.
B3.3.3T&CCC	Are easy to learn.		B3.3.3LM	Are easy to learn.
B3.3.4T&CCC	Have friendly technical functions to use.		B3.3.4LM	Have friendly technical functions to use.
B3.3.5T&CCC	Have learning materials that are free of effort to find.		B3.3.5LM	Have learning materials that are free of effort to find.

From the Table 4.7, Figure 4.16 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the perceived ease of use factor that affect the employees' learning of the adopted banking ICT systems before attending training.

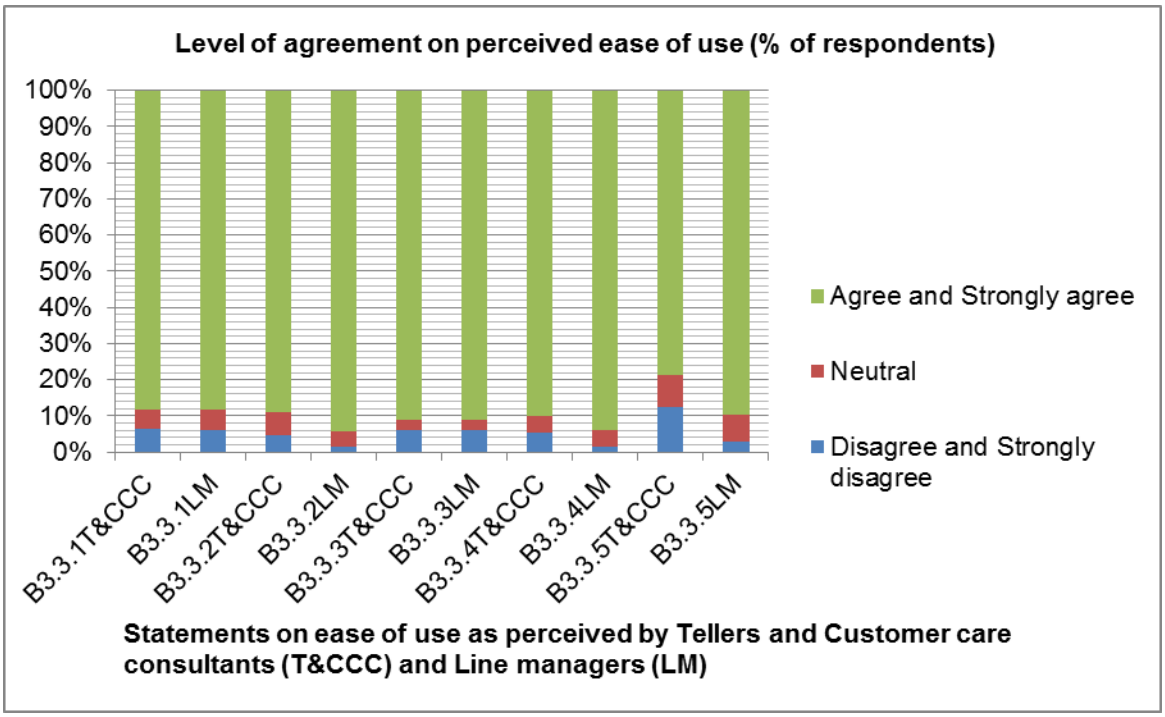


Figure 4.16: Level of agreement on perceived ease of use factor for the T&CCC and LM.

For the majority of tellers and customer care consultants, the adopted ICT systems: used understandable terms (88.2%); were easy to use (88.8%); were easy to learn (91.1%); had friendly technical functions to use (89.9%); had learning materials that were free of effort to find (78.7%).

The line managers perceived that, for the majority of their team of employees, the adopted ICT systems: used understandable terms (88.2%); were easy to use (94.2%); were easy to learn (91.2%); had friendly technical functions to use (94.1%); had learning materials that are free of effort to find (89.7%).

The percentages presented above, showed that the two respondent groups perceived that using the adopted banking ICT systems was easy. The perceived ease of use is the degree to which, the individuals believe that using the system will be free of effort (Abeka 2012; Jahangir & Begum 2008).

4.3.2.4 Perceived usefulness

The Table 4.8 shows the statements under the perceived usefulness factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.8: Statements on the perceived usefulness factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	The adopted ICT systems:		***Horizontal Axis***	For the majority of my team of employees, the adopted ICT systems:
B3.4.1T&CCC	Enhance my job performance.		B3.4.1LM	Enhance their job performance.
B3.4.2T&CCC	Ease my job tasks.		B3.4.2LM	Ease their job tasks.
B3.4.3T&CCC	Are very efficient to achieve my ICT learning goals.		B3.4.3LM	Are very efficient to achieve their ICT learning goals.
B3.4.4T&CCC	Are useful to learn.		B3.4.4LM	Are useful to learn.
B3.4.5T&CCC	Are comprehensive to cover all my learning needs.		B3.4.5LM	Are comprehensive to cover all their learning needs.

From the Table 4.8, Figure 4.17 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the perceived usefulness factor that affect the employees' learning of the adopted banking ICT systems before attending training.

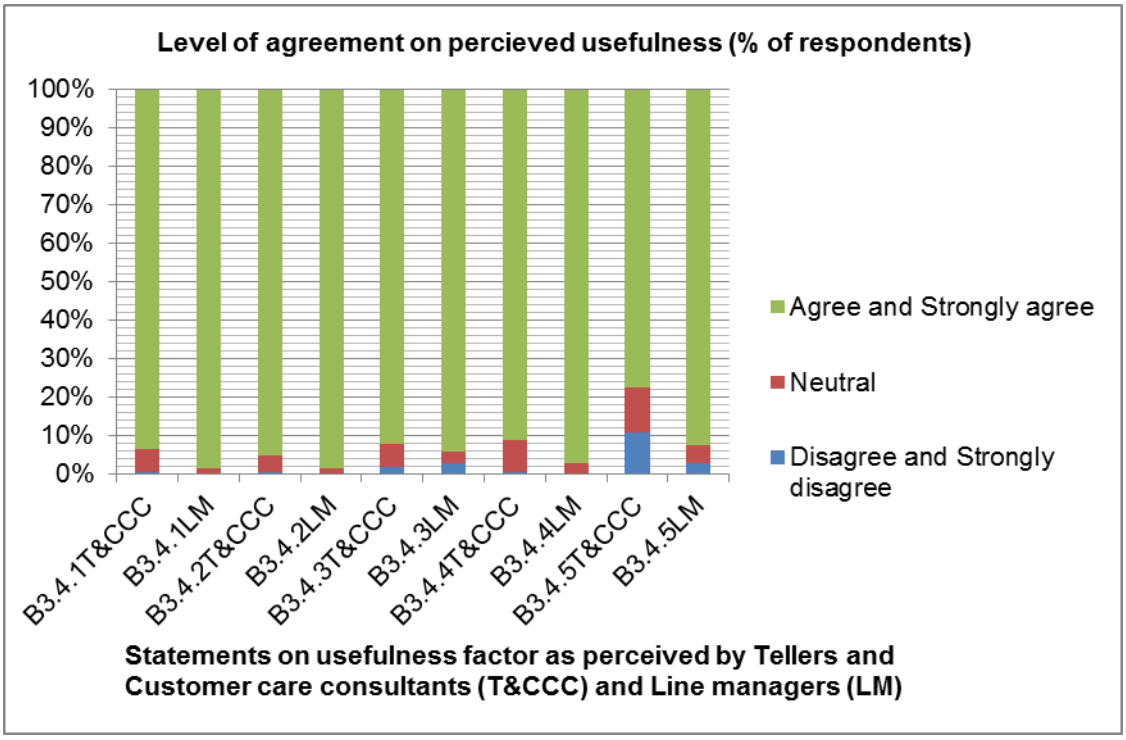


Figure 4.17: Level of agreement on perceived usefulness factor for the T&CCC and LM.

For the majority of the tellers and customer care consultants, the adopted ICT systems: enhanced their job performance (93.5%); eased their job tasks (95.3%); were very efficient to achieve their ICT learning goals (92.3%); were useful to learn (91.1%) and were comprehensive to cover all their learning needs (77.5%).

The majority of the line managers perceive that, for the majority of their team of employees, the adopted ICT systems: enhanced their job performance (98.5%); eased their job tasks (98.6%); were very efficient to achieve their ICT learning goals (94.1%); were useful to learn (97.1%) and were comprehensive to cover all their learning needs (92.6%).

The results showed that the respondents believed that using a particular system would enhance their job performance by helping them accomplish tasks faster and be generally advantageous (Abeka 2012; Davis 1989).

4.3.2.5 Perceived security

The Table 4.9 shows the statements under the perceived security factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.9: Statements on the perceived security factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis			***Horizontal Axis***	The majority of my team of employees/The majority of my team of employees'
B3.5.1T&CCC	My work related transactions are protected adequately against unauthorised access.		B3.5.1LM	Work related transactions are protected adequately against unauthorised access.
B3.5.2T&CCC	I take appropriate security measures when using the adopted banking ICT systems.		B3.5.2LM	Takes appropriate security measures when using the adopted banking ICT systems.
B3.5.3T&CCC	I am afraid that transaction errors may occur when I use the adopted ICT systems.		B3.5.3LM	Is afraid that transaction errors may occur when they use the adopted ICT systems.
B3.5.4T&CCC	I am afraid that my job account can be hacked.		B3.5.4LM	Is afraid that their job accounts can be hacked.
B3.5.5T&CCC	I operate the adopted ICT systems using the right commands.		B3.5.5LM	Operates the adopted ICT systems using the right commands.

From the Table 4.9, Figure 4.18 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the perceived security factor that affect the employees' learning of the adopted banking ICT systems before attending training.

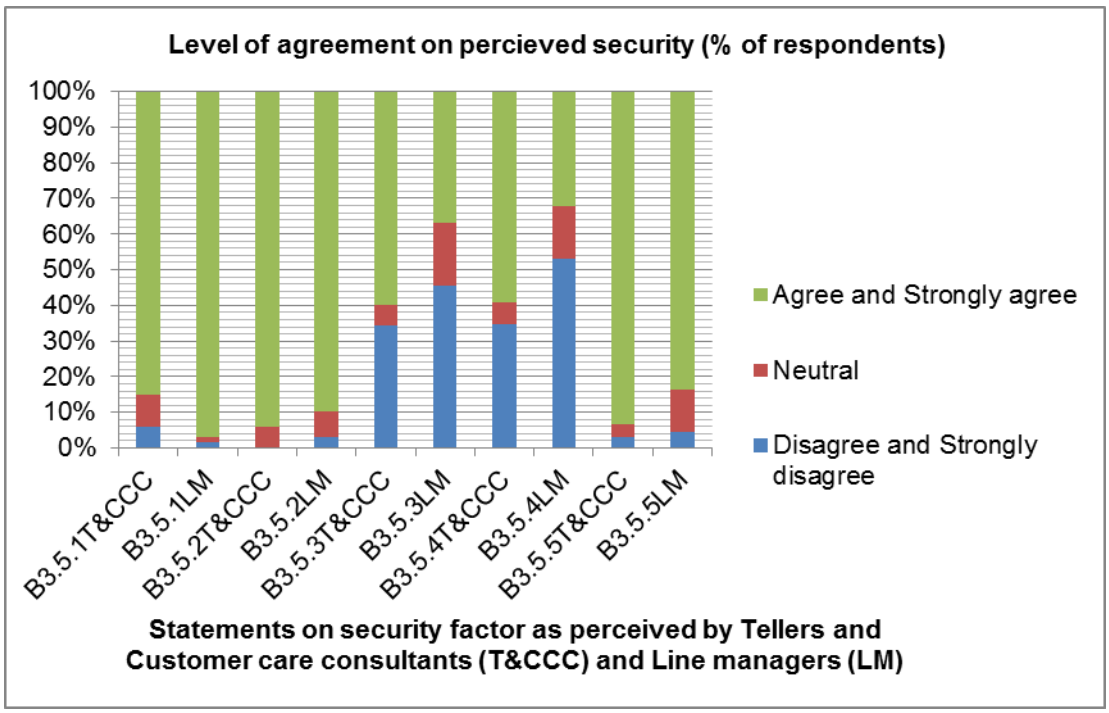


Figure 4.18: Level of agreement on perceived security factor for the T&CCC and LM.

The large majority of the tellers and the customer care consultants: perceived their work related transactions to be protected adequately against unauthorised access (85.3%); took appropriate security measures when using the adopted banking ICT systems (94.1%) and operated the adopted ICT systems using the right command (93.5%). However over half of this group were afraid that: transaction errors could occur when they used the adopted ICT systems (59.8%) and their job accounts could be hacked (59.2%).

The opinion of the majority of the line managers is that the majority of their team of employees: perceived their work related transactions to be protected adequately against unauthorised access (97%); took appropriate security measures when using the adopted banking ICT systems (89.7%) and operated the adopted ICT systems using the right command (82.3%). However, only about a third of the line managers agreed or strongly agreed that the majority of their team of employees were afraid that: transaction errors could occur when they used the adopted ICT systems (36.7%); their job accounts could be hacked (32.3%)

These results meant that the tellers and the customer care consultants were concerned with the security of the systems especially with the issue of unwarranted access to their accounts. They perceived that this could lead to the violation of the employees' privacy as discussed by Fonchamnyo (2013). Thus the organisation ought to ensure that the adopted ICT systems were protected against unauthorised access.

4.3.2.6 Language used

The Table 4.10 shows the statements under the perceived language used factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.10: Statements on the perceived language used factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis			***Horizontal Axis***	For the majority of my team of employees:
B3.6.1T&CCC	The ICT systems are designed in a familiar language.		B3.6.1LM	The ICT systems are designed in a familiar language.
B3.6.2T&CCC	It is easy for me to read the language used in the adopted ICT systems.		B3.6.2LM	It is easy for them to read the language used in the adopted ICT systems.
B3.6.3T&CCC	The use of jargons (technical terms) is minimised in the adopted ICT systems.		B3.6.3LM	The use of jargon (technical terms) is minimised in the adopted ICT systems.
B3.6.4T&CCC	Clear definitions of technical terms used are provided in the adopted ICT systems.		B3.6.4LM	Clear definitions of technical terms used are provided in the adopted ICT systems.
B3.6.5T&CCC	The simple language used encourages my quick understanding of the adopted ICT systems.		B3.6.5LM	The simple language used encourages their quick understanding of the adopted ICT systems.

From the Table 4.10, Figure 4.19 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the language used factor that affect the employees' learning of the adopted banking ICT systems before attending training.

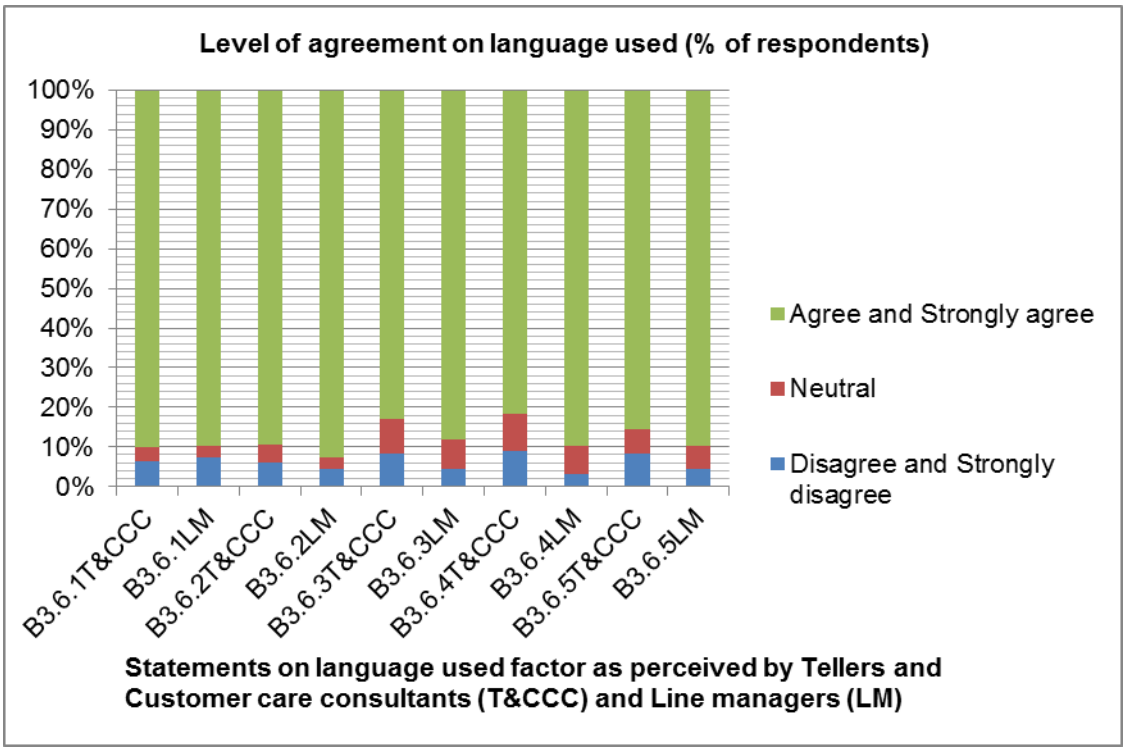


Figure 4.19: Level of agreement on perceived language used factor for the T&CCC and LM.

For the majority of the tellers and customer care consultants, the ICT systems were designed in a familiar language (89.9%); it was easy for them to read the language used in the adopted ICT systems (89.4%); the use of jargon was minimised in the adopted ICT systems (82.8%); clear definitions of technical terms used were provided in the adopted ICT systems (81.7%) and the simple language used encouraged their quick understanding of the adopted ICT systems (84.7%).

For the majority of the line managers, the ICT systems were designed in a familiar language (89.7%); it was easy for them to read the language used in the adopted ICT systems (92.7%); the use of jargon was minimised in the adopted ICT systems (88.3%);

clear definitions of technical terms used were provided in the adopted ICT systems (89.7%) and the simple language used encouraged their quick understanding of the adopted ICT systems (89.7%).

The high percentages meant that the language used in the adopted banking ICT systems motivated the employees to learn the systems.

4.3.2.7 Graphics

The Table 4.11 shows the statements under the perceived graphics factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.11: Statements on the perceived graphics factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	The adopted ICT systems:		***Horizontal Axis***	For the majority of my team of employees, the adopted ICT systems:
B3.7.1T&CCC	Have relevant diagrams.		B3.7.1LM	Have relevant diagrams.
B3.7.2T&CCC	Have quality pictures.		B3.7.2LM	Have quality pictures.
B3.7.3T&CCC	Use colour to highlight key points for easier reading.		B3.7.3LM	Use colour to highlight key points for easier reading.
B3.7.4T&CCC	Avoid the use of complex graphics.		B3.7.4LM	Avoid the use of complex graphics.
B3.7.5T&CCC	Balance the amount of text with the graphics.		B3.7.5LM	Balance the amount of text with the graphics.

From the Table 4.11, Figure 4.20 was plotted to show the level of agreement in percentages (%) between tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the graphics factor that affect the employees' learning of the adopted banking ICT systems before attending training.

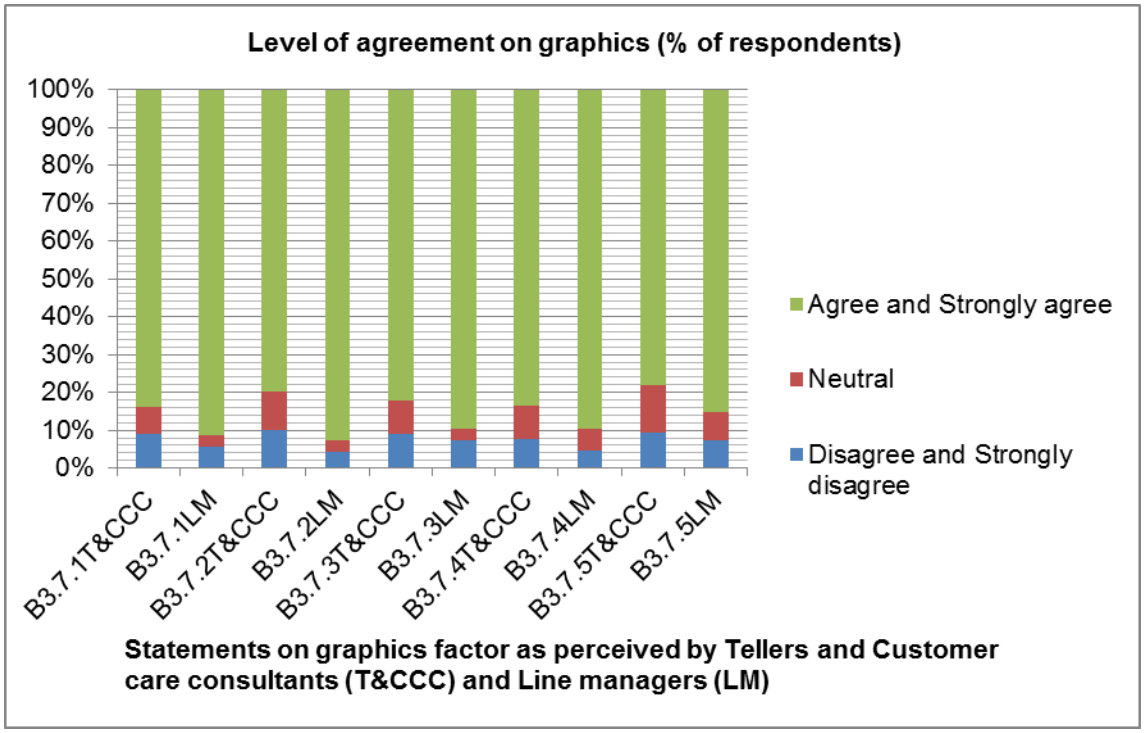


Figure 4.20: Level of agreement on perceived graphics factor for the T&CCC and LM.

For the majority of the tellers and customer care consultants, the adopted ICT systems: had relevant diagrams (84%); had quality pictures (79.9%); used colour to highlight key points for easier reading (82.2%); avoided the use of complex graphics (83.4%) and balanced the amount of text with the graphics (78.1%).

For the majority of the line managers, the adopted ICT systems: had relevant diagrams (91.2%); had quality pictures (92.7%); used colour to highlight key points for easier reading (89.7%); avoided the use of complex graphics (88.3%) and balanced the amount of text with the graphics (85.3%).

Both the tellers and customer care consultant group and the line managers group perceived the graphics used in the adopted banking ICT systems to encourage employee learning.

4.3.2.8 Computer anxiety

The Table 4.12 shows the statements under the perceived computer anxiety factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.12: Statements on the perceived computer anxiety factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	Working with computers makes me:		***Horizontal Axis***	Working with computers makes the majority of my team of employees:
B3.8.1T&CCC	Nervous.		B3.8.1LM	Nervous.
B3.8.2T&CCC	Uncomfortable.		B3.8.2LM	Uncomfortable.
B3.8.3T&CCC	Worried whether I will succeed to learn the adopted ICT systems.		B3.8.3LM	Worried whether they will succeed to learn the adopted ICT systems.
B3.8.4T&CCC	Scared.		B3.8.4LM	Scared.
B3.8.5T&CCC	I have basic knowledge and skills in ICT.		B3.8.5LM	The majority of my team of employees Has basic knowledge and skills in ICT.

From the Table 4.12, Figure 4.21 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the computer anxiety factor that affect the employees' learning of the adopted banking ICT systems before attending training.

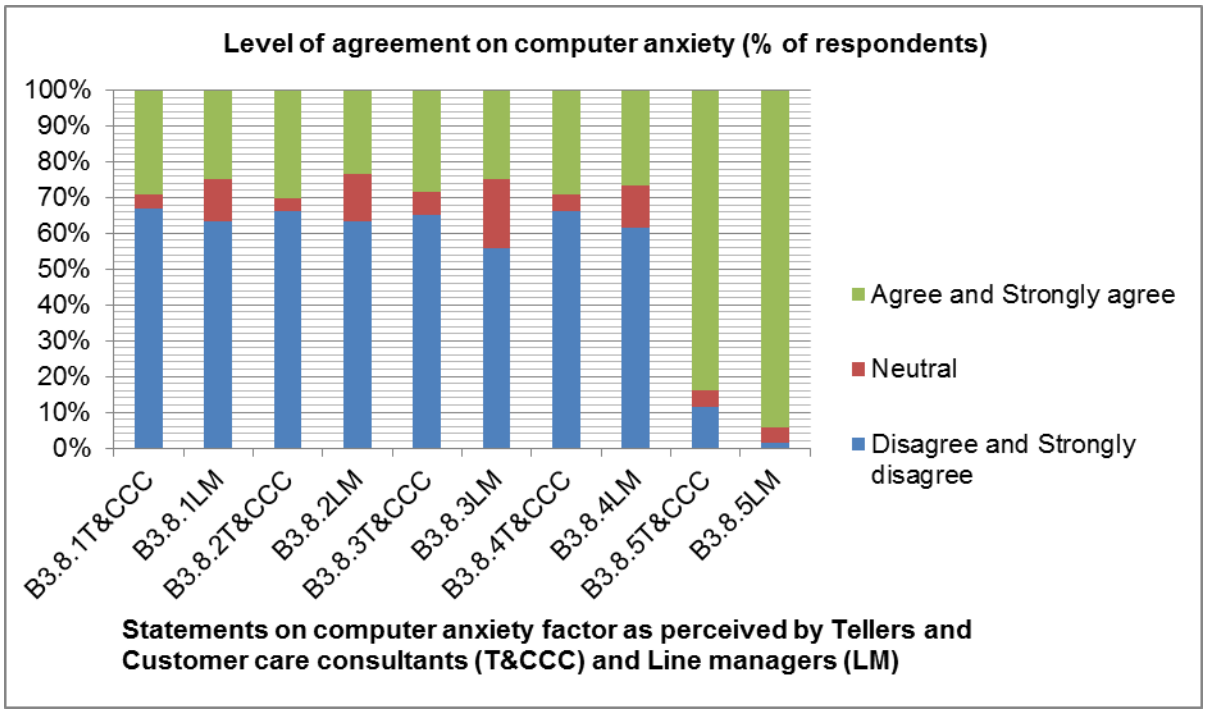


Figure 4.21: Level of agreement on perceived computer anxiety factor for the T&CCC and LM.

The minority of tellers and the customer care consultants perceived that, working with computers made them: nervous (29%); uncomfortable (30.2%); worried whether they would succeed to learn the adopted ICT systems (28.4%) and scared (29%). However, the majority of the tellers and the customer care consultants had basic knowledge and skills in ICT (84%).

Less than a third of the line managers perceived that, working with computers made the majority of their team of employees: nervous (25%); uncomfortable (23.5%); worried whether they would succeed to learn the adopted ICT systems (25%) and scared (26.5%). However the line managers perceived that the majority of their team of employees had basic knowledge and skills in ICT (94.1%).

These results concurred with the results in Section 4.2.4 that showed 97.8% of the tellers and customer care consultants to have attended training in ICT hence had basic knowledge and skills in ICT. The basic knowledge and skills in ICT reduced or eliminated their being nervous, uncomfortable, scared or worried whether they would learn the adopted ICT systems as they worked with computers.

4.3.3 Organisational factors

The results in section 4.3.3 showed the level of agreement between tellers and customer care consultants (as group 1) and the line managers (as group 2) with regard to the perceived organisational factors that affect the employees' learning of the adopted banking ICT systems before attending training.

4.3.3.1 Learning culture

The Table 4.13 shows the statements under the perceived learning culture factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.13: Statements on the perceived learning culture factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	In my organisation:		***Horizontal Axis***	For the majority of my team of employees, in our organisation:
C1.1T&CCC	There is continuous learning.		C1.1LM	There is continuous learning.
C1.2T&CCC	I am guided to define my ICT learning objectives.		C1.2LM	They are guided to define their ICT learning objectives.
C1.3T&CCC	I am allowed to make mistakes when learning the adopted ICT systems.		C1.3LM	They are allowed to make mistakes when learning the adopted ICT systems.
C1.4T&CCC	There are a lot of opportunities that support my learning of the adopted ICT systems.		C1.4LM	There are a lot of opportunities that support their learning of the adopted ICT systems.
C1.5T&CCC	I am provided with a variety of ICT learning programmes to bridge my ICT skills and knowledge gaps.		C1.5LM	They are provided with a variety of ICT learning programmes to bridge their ICT skills and knowledge gaps.

From the Table 4.13, Figure 4.22 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the learning culture factor that affect the employees' learning of the adopted banking ICT systems before attending training.

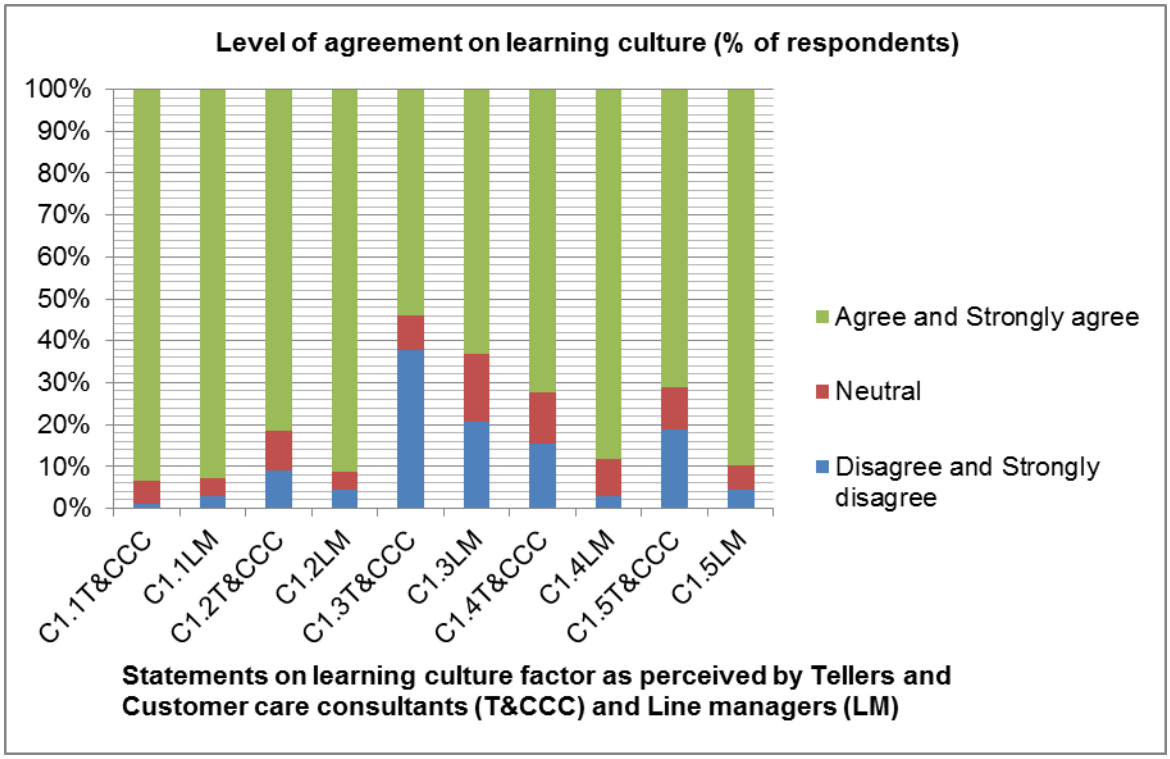


Figure 4.22: Level of agreement on perceived learning culture factor for the T&CCC and LM.

A majority of tellers and customer care consultants perceived that, in the organisation: there was continuous learning (93.5%); they were guided to define their ICT learning objectives (81.6%%); they were allowed to make mistakes when learning the adopted ICT systems (53.9%); there were a lot of opportunities that support their learning of the adopted systems (72.2%) and they were provided with a variety of ICT learning programmes to bridge their ICT skills and knowledge gaps (71.1%).

A majority of the line managers also perceived that, in the organisation: there was continuous learning (92.7%); the majority of their team of employees were guided to define their ICT learning objectives (91.2%); the majority of their team of employees were

allowed to make mistakes when learning the adopted ICT systems (63.2%); there were a lot of opportunities that support the majority of their team of employees' learning of the adopted systems (88.2%) and the majority of their team of employees were provided with a variety of ICT learning programmes to bridge their ICT skills and knowledge gaps (89.7%).

The percentages above showed that there were strategic learning approaches in the organisation in which the managers made sure that their team of employees enjoyed: a learning guidance in defining their learning objectives; career development by creating learning opportunities and learning resources through offering more training and mentoring programmes (Meyer 2012).

4.3.3.2 Social support

The Table 4.14 shows the statements under the perceived social support factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.14: Statements on the perceived social support factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	In my organisation:		***Horizontal Axis***	The majority of my team of employees/the majority of my team of employees'
C2.1T&CCC	I am motivated to learn the adopted ICT systems when my peers support me.		C2.1LM	Is motivated to learn the adopted ICT systems when their peers support them.
C2.2T&CCC	My learning of the adopted ICT systems is enhanced when my manager clearly defines my learning goals.		C2.2LM	Learning of the adopted ICT systems is enhanced when I clearly define their learning goals.
C2.3T&CCC	I am encouraged when my manager shows an interest in my learning of the adopted ICT systems.		C2.3LM	Is encouraged when I show an interest in their learning of the adopted ICT systems.

C2.4T&CCC	I perform my job tasks better when my manager coaches me.		C2.4LM	Performs their job tasks better when I coach them.
C2.5T&CCC	I achieve my ICT learning goals that my manager set.		C2.5LM	Achieves their ICT learning goals that I set.

From the Table 4.14, Figure 4.23 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the social support factor that affect the employees' learning of the adopted banking ICT systems before attending training.

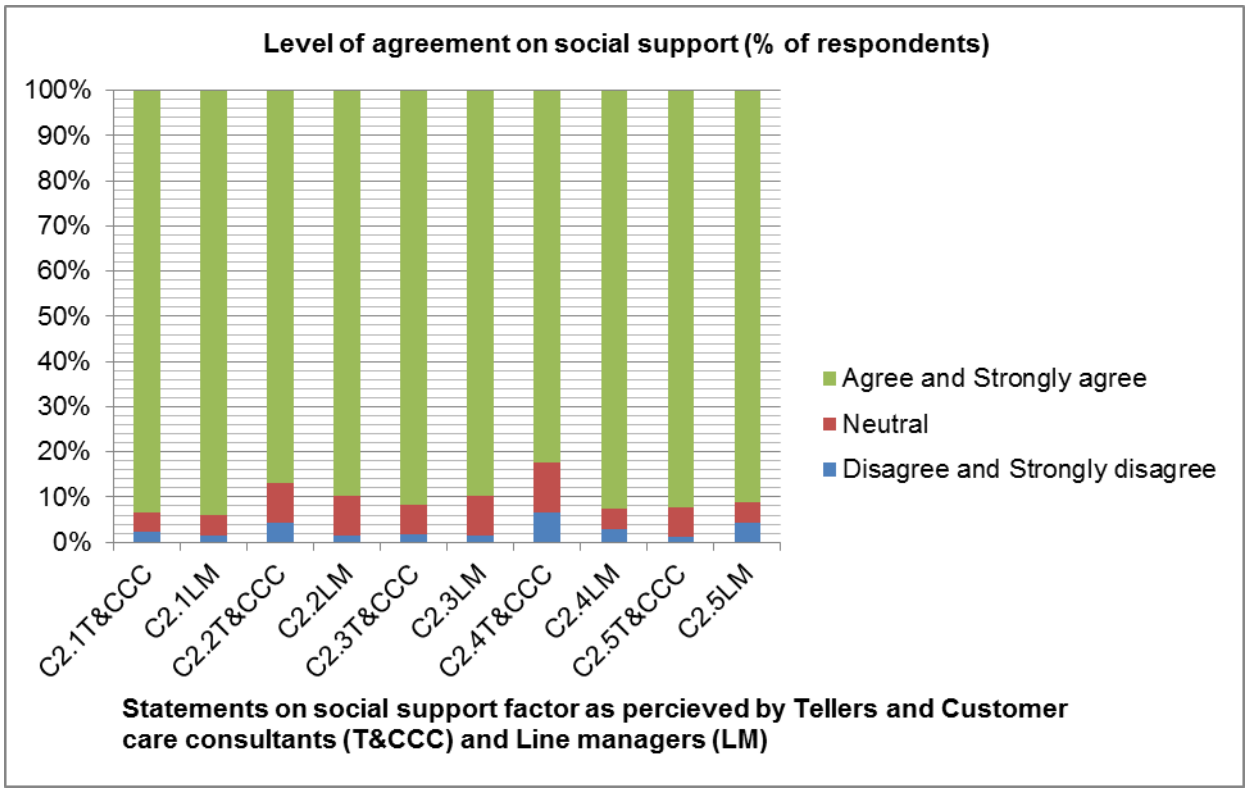


Figure 4.23: Level of agreement on perceived social support factor for the T&CCC and LM.

The majority of the tellers and customer care consultants perceived that: they were motivated to learn the adopted ICT systems when their peers support them (93.4%); their learning of the adopted ICT systems was enhanced when their managers clearly defined their learning goals (87%); they were encouraged when their managers showed an interest in their learning of the adopted ICT systems (91.7%); they performed their job

tasks better when their managers coached them (82.2%) and they achieved their ICT learning goals that their managers set (91.7%).

The line managers agreed with the perception of the tellers and the customer care consultants as they also perceived that a majority of their team of employees: were motivated to learn the adopted ICT systems when their peers support them (94.1%); the learning of the adopted ICT systems was enhanced when their managers clearly defined their learning goals (89.7%); were encouraged when their managers showed an interest in their learning of the adopted ICT systems (89.7%); performed their job tasks better when their managers coached them (92.7%) and achieved their ICT learning goals that their managers set (91.2%).

These results showed that the social support factor was influential when the employees believed that their supervisors and peers provided them with opportunities for practicing new skills and knowledge in their job setting (Baldwin & Ford 1988; Pinder 2016).

4.3.3.3 Rewards and recognition

The Table 4.15 shows the statements under the perceived rewards and recognition factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.15: Statements on the perceived rewards and recognition factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	In my organisation:		***Horizontal Axis***	For the majority of my team of employees, in our organisation:
C3.1T&CCC	I am motivated to learn the adopted ICT systems when an appropriate reward and recognition is given to me.		C3.1LM	They are motivated to learn the adopted ICT systems when an appropriate reward and recognition is given to them.

C3.2T&CCC	I appreciate concrete and tangible rewards when I acquire the desired ICT knowledge and skills.		C3.2LM	They appreciate concrete and tangible rewards when they acquire the desired ICT knowledge and skills.
C3.3T&CCC	I am encouraged to learn the adopted ICT systems when I get a positive appraisal.		C3.3LM	They are encouraged to learn the adopted ICT systems when they get positive appraisals.
C3.4T&CCC	My knowledge and skills in ICT acquired prior to the workplace training programmes are recognised.		C3.4LM	Their knowledge and skills in ICT acquired prior to the workplace training programmes are recognised.
C3.5T&CCC	I receive incentives for meeting my learning goals in the adopted ICT systems.		C3.5LM	They receive incentives for meeting their learning goals in the adopted ICT systems.

From the Table 4.15, Figure 4.24 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) as one group and the line managers (LM) as the other group with regard to the rewards and recognition factor that affect the employees' learning of the adopted banking ICT systems before attending training.

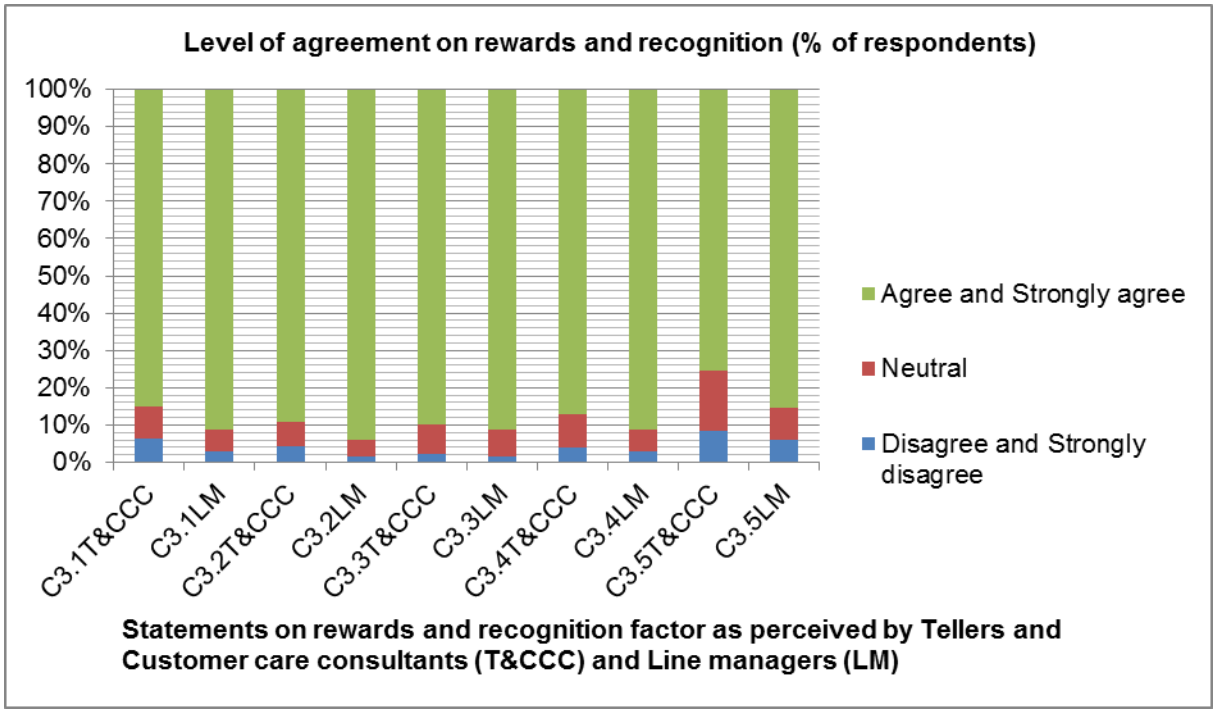


Figure 4.24: Level of agreement on perceived rewards and recognition factor for the T&CCC and LM.

In the organisation, the majority of the tellers and the customer care consultants perceived that: they were motivated to learn the adopted ICT systems when an appropriate reward and recognition was given to them (85.2%); they appreciated concrete and tangible rewards when they acquired the desired ICT knowledge and skills (89.3%); they were encouraged to learn the adopted ICT systems when they got a positive appraisal (90%); their knowledge and skills in ICT acquired prior to the workplace training programmes were recognised (86.9%) and they received incentives for meeting their learning goals in the adopted ICT systems (75.2%).

In the organisation, the vast majority of the line managers perceived that the majority of their team of employees: were motivated to learn the adopted ICT systems when an appropriate reward and recognition was given to them (91.2%); appreciated concrete and tangible rewards when they acquired the desired ICT knowledge and skills (94.2%); were encouraged to learn the adopted ICT systems when they got a positive appraisal (91.2%); had their knowledge and skills in ICT acquired prior to the workplace training programmes were recognised (91.2%) and received incentives for meeting their learning goals in the adopted ICT systems (85.3%).

The preceding results in this section (Section 4.3.3.3) confirmed that employees appreciated concrete and tangible benefits, rewards or incentives that organisations offered to them when they participated in learning courses. The workplace rewards may include monetary and non-monetary incentives (Ballentine *et al.* 2012). Ballentine *et al.* (2012) suggested that care ought to be taken to ensure that there was a balance between monetary and non-monetary incentives. The rewards and recognition factor would thus support learning if the balance was maintained.

4.3.3.4 Job characteristics

The Table 4.16 shows the statements under the perceived job characteristics factor from the two questionnaires that targeted the two respondent groups, namely the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group.

Table 4.16: Statements on the perceived job characteristics factor.

Tellers and Customer care consultants (T&CCC)			**Line managers (LM)**	
Horizontal Axis	In my organisation:		***Horizontal Axis***	For the majority of my team of employees, in our organisation:
C4.1T&CCC	I receive sufficient ICT learning opportunities to successfully adjust to the workplace challenges.		C4.1LM	They receive sufficient ICT learning opportunities to successfully adjust to the workplace challenges.
C4.2T&CCC	My job allows the full use of my ICT knowledge and skills.		C4.2LM	Their jobs allow the full use of their ICT knowledge and skills.
C4.3T&CCC	I am positively pressured to achieve my ICT learning goals.		C4.3LM	They are positively pressured to achieve their ICT learning goals.
C4.4T&CCC	My job is characterised by some form of independence in which I can make my own ICT systems' related decisions.		C4.4LM	Their jobs are characterised by some form of independence in which they can make their own ICT systems' related decisions.
C4.5T&CCC	My manager encourages me to infuse new ICT ideas into my work.		C4.5LM	I encourage them to infuse new ICT ideas into their work.

From the Table 4.16, Figure 4.25 was plotted to show the level of agreement in percentages (%) for the tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the job characteristics factor that affect the employees' learning of the adopted banking ICT systems before attending training.

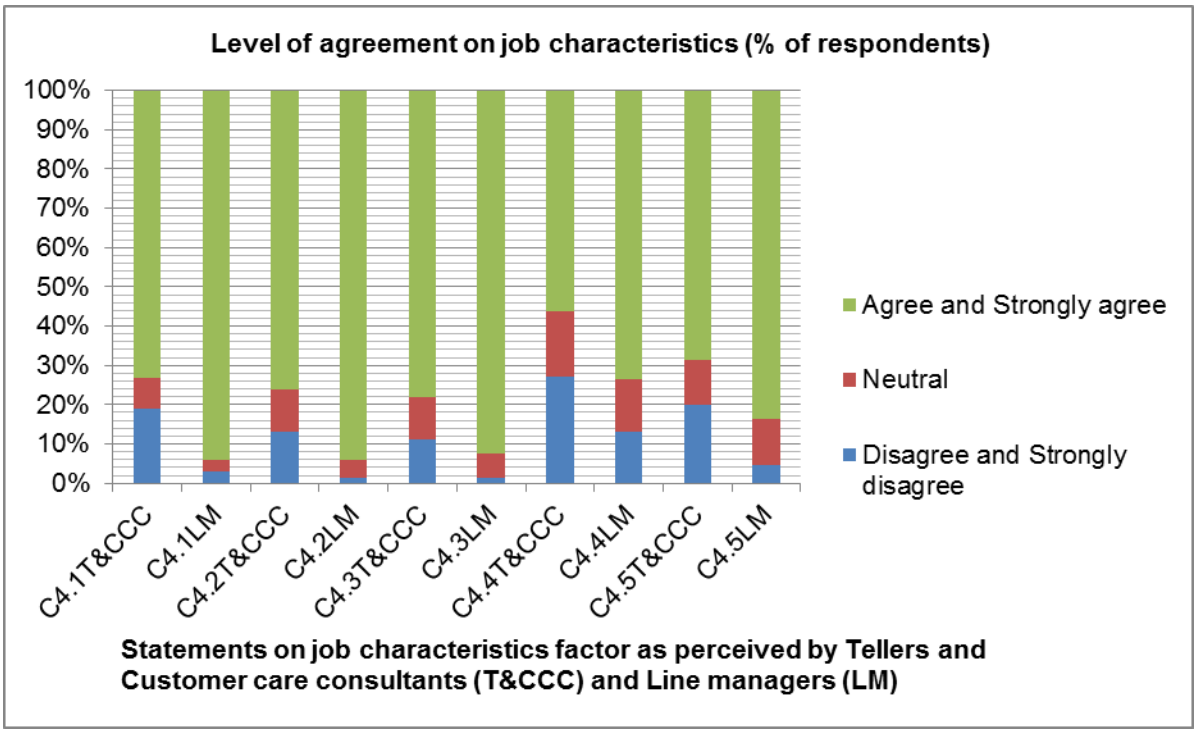


Figure 4.25: Level of agreement on perceived job characteristics factor for the T&CCC and LM.

In the organisation, the majority of the tellers and customer care consultants perceived that: they received sufficient ICT learning opportunities to successfully adjust to the workplace challenges (73.4%); their job allowed the full use of their ICT knowledge and skills (76.3%); they were positively pressured to achieve their ICT learning goals (78.1%); their job was characterised by some form of independence in which they could make their own ICT systems' related decisions (56.2%) and their managers encouraged them to infuse new ICT ideas into their work (68.7%).

For the majority of their team of employees, the line managers perceived that: they received sufficient ICT learning opportunities to successfully adjust to the workplace challenges (94.1%); their job allowed the full use of their ICT knowledge and skills (94.1%); they were positively pressured to achieve their ICT learning goals (92.7%); their job was characterised by some form of independence in which they could make own ICT systems' related decisions (73.6%) and their managers encouraged them to infuse new ICT ideas into their work (82.4%).

The percentages above showed that job characteristics had impact on the workplace learning. Gijbels *et al.* (2012) as well as Akbari *et al.* (2017) advised that a work situation offered more learning potential if both dimensions of job demands and job control were in balance.

4.3.4 Strategy factor

In this section (Section 4.3.4), the results of the level of agreement between the tellers and customer care consultants (as group 1) and the line managers (as group 2) with regard to the perceived strategy factor that address factors that do not support the employees' learning of the adopted banking ICT systems before attending training have been. The Table 4.17 shows the statements under the strategy factor from the questionnaires for tellers and customer care consultants target group and the line managers target group.

Table 4.17: Statements on the perceived strategy factor.

	Tellers and Customer care respondents (T&CCC)			**Line managers (LM)**
Horizontal Axis	My organisation needs to:		***Horizontal Axis***	Our organisation needs to:
E1T&CCC	Offer mentorship programmes to motivate employees to learn the adopted ICT systems.		E1LM	Offer mentorship programmes to motivate employees to learn the adopted ICT systems.
E2T&CCC	Align employees' learning needs to the fulfilment of their job obligations.		E2LM	Align employees' learning needs to the fulfilment of their job obligations.
E3T&CCC	Allow more learning time for the		E3LM	Allow more learning time for the

	adopted ICT systems during work hours.			adopted systems during work hours.
E4T&CCC	Promote the usefulness of the adopted ICT systems in order to create positive attitudes amongst the employees.		E4LM	Promote the usefulness of the adopted ICT systems in order to create positive attitudes amongst the employees.
E5T&CCC	Identify the employees' learning needs when defining the organisational objectives.		E5LM	Identify the employees' learning needs when defining the organisational objectives.
E6T&CCC	Encourage both managerial and peer coaching for effective job performance.		E6LM	Encourage both managerial and peer coaching for effective job performance.
E7T&CCC	Recognise and reward employees' informal learning through a formal assessment and evaluation process.		E7LM	Recognise and reward employees' informal learning through a formal assessment and evaluation process.
E8T&CCC	Organise regular ICT training programmes to bridge the employees' knowledge and skills gaps in the adopted ICT systems.		E8LM	Organise regular ICT training programmes to bridge the employees' knowledge and skills gaps in the adopted ICT systems.
E9T&CCC	Regularly evaluate the effectiveness of the adopted ICT systems.		E9LM	Regularly evaluate the effectiveness of the adopted ICT systems.
E10T&CCC	Ensure that effective security measures exist to prevent unauthorised access to the adopted ICT systems.		E10LM	Ensure that effective security measures exist to prevent unauthorised access to the adopted ICT systems.
E11T&CCC	Ensure that the designs of ICT learning programmes incorporate learners' competency development needs.		E11LM	Ensure that the designs of ICT learning programmes incorporate learners' competency development needs.

From the Table 4.17, Figures 4.26 and 4.27 were plotted to show the level of agreement in percentage (%) between tellers and customer care consultants (T&CCC) and the line managers (LM) with regard to the strategies that support the employees' learning of the adopted banking ICT systems before attending training.

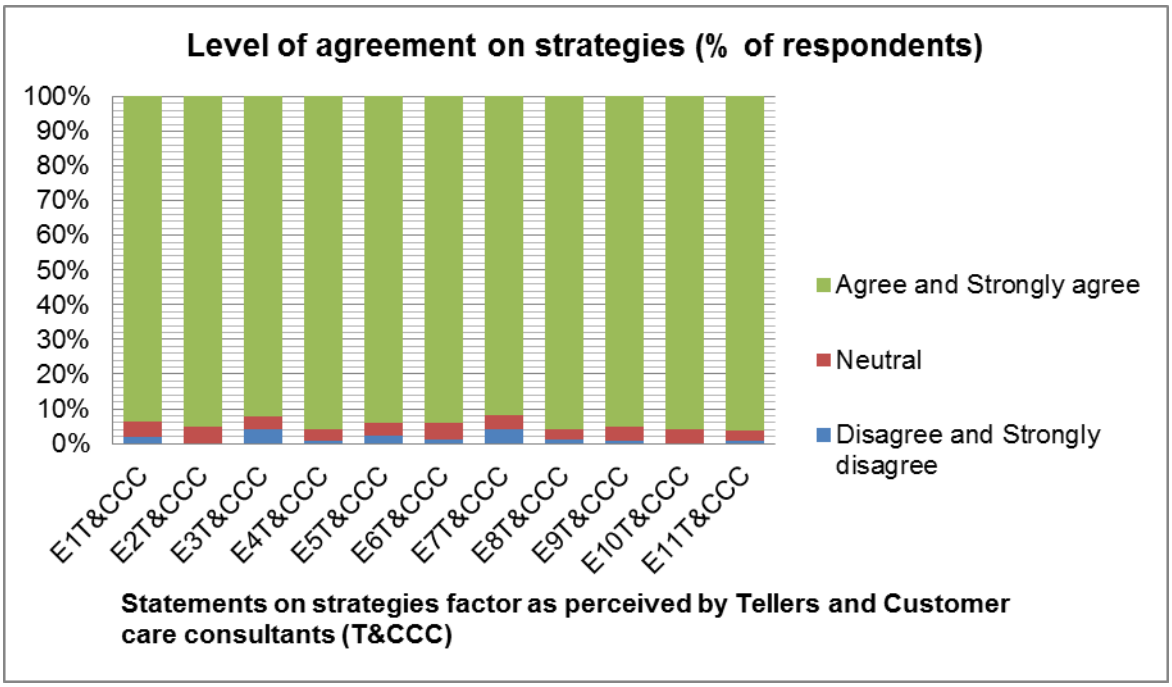


Figure 4.26: Level of agreement on the perceived strategy factor for the T&CCC.

According to the majority of the tellers and customer care consultants, the organisation needed to: offer mentorship programmes to motivate employees to learn the adopted ICT systems (93.5%); align employees' learning needs to the fulfilment of their job obligations (95.2%); allow more learning time for the adopted ICT systems during work hours (92.3%); promote the usefulness of the adopted ICT systems in order to create positive attitudes amongst the employees (95.8%); identify the employees' learning needs when defining the organisational objectives (94.1%); encourage both managerial and peer coaching for effective job performance (94.1%); recognise and reward employees' informal learning through a formal assessment and evaluation process (91.7%); organise regular ICT training programmes to bridge the employees' knowledge and skills gaps in the adopted ICT systems (95.9%); regularly evaluate the effectiveness of the adopted ICT systems (95.2%); ensure that effective security measures exist to prevent unauthorised access to the adopted ICT systems (95.9%) and ensure that the designs of ICT learning programmes incorporate learners' competency development needs (96.5%).

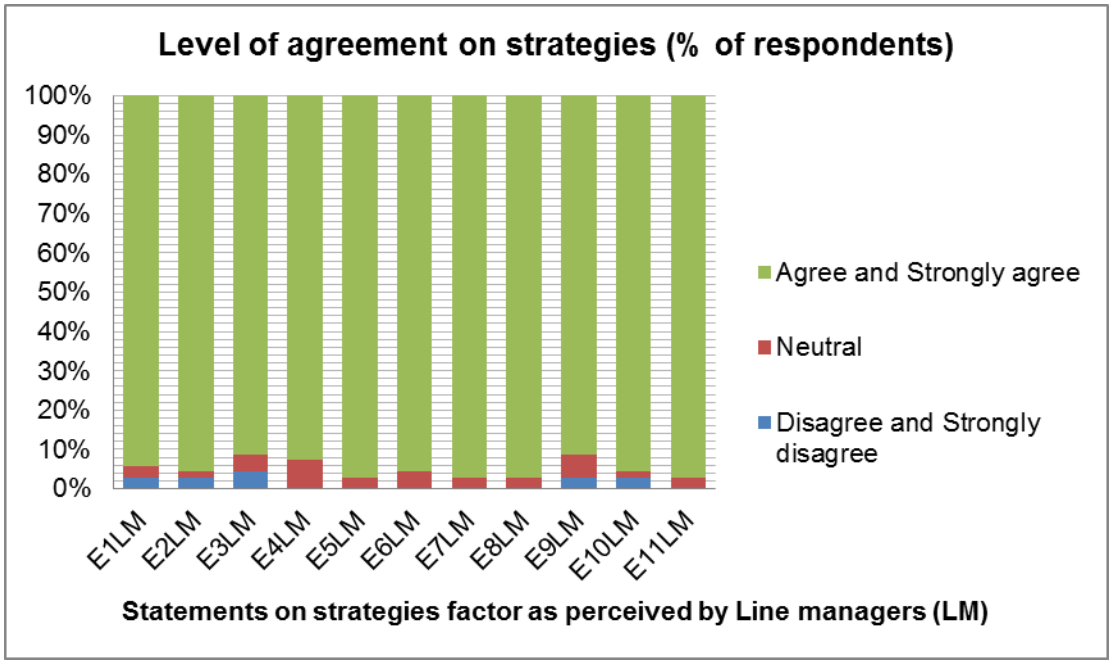


Figure 4.27: Level of agreement on the perceived strategy factor for the LM.

The majority of the line managers also agreed that, the organisation needed to: offer mentorship programmes to motivate employees to learn the adopted ICT systems (94.1%); align employees' learning needs to the fulfilment of their job obligations (95.6%); allow more learning time for the adopted ICT systems during work hours (91.2%); promote the usefulness of the adopted ICT systems in order to create positive attitudes amongst the employees (92.7%); identify the employees' learning needs when defining the organisational objectives (97.1%); encourage both managerial and peer coaching for effective job performance (95.6%); recognise and reward employees' informal learning through a formal assessment and evaluation process (97%); organise regular ICT training programmes to bridge the employees' knowledge and skills gaps in the adopted ICT systems (97.1%); regularly evaluate the effectiveness of the adopted ICT systems (91.1%); ensure that effective security measures exist to prevent unauthorised access to the adopted ICT systems (95.6%) and ensure that the designs of ICT learning programmes incorporate learners' competency development needs (97%).

4.4 RESULTS OF QUESTIONS B.1, B.2, A.5, C.5, D.0 AND E.13 OF THE QUESTIONNAIRES

Below are the responses to question B.1 and B.2 and the open questions A.5, C.5, D.0 and E.13 from the two questionnaires.

4.4.1 ICT systems used in the banking organisations

The table below shows the response of the two respondent groups with regard to the ICT systems used in the banking organisations.

Table 4.18: ICT systems used in the banking organisations.

B.1.0	Banking ICT systems used	Tellers and Customer care consultants		Line managers	
		% of Yes	% of No	% of Yes	% of No
B.1.1	Telephone banking	97.6	2.4	100	0
B.1.2	Electronic funds transfer	100	0	100	0
B.1.3	Automated Teller Machines (ATM)	100	0	100	0
B.1.4	Home banking	95.3	4.7	95.6	4.4
B.1.5	Internet banking	99.4	.0.6	100	0

A majority of the respondents (over 95 %) affirmed that their organisation used: telephone banking, electronic funds transfer, automated Teller Machines, home banking and internet banking. For the open question B.1.6, a majority of the respondent groups added the mobile banking and agent banking systems to be used in their organisations.

4.4.2 Practices applied in the organisation to aid the learning of the adopted banking ICT systems

A majority of the respondents in both groups were in agreement that the following practices are applied to aid the learning of the adopted ICT systems in their banking organisations.

Table 4.19: Practices applied in the organisation to aid the learning of the adopted banking ICT systems.

B.2.0	**Banking ICT systems used**	**Tellers and Customer care consultants**		**Line managers**	
		% of Yes	**% of No**	**% of Yes**	**% of No**
B.2.1	Engaging in electronic communication sessions such as using emails or telephones.	100	0	100	0
B.2.2	Engaging in banking e-learning programmes like computer-aided learning, internet-based learning or mobile cell phone learning.	98.8	1.2	97.1	2.9
B.2.3	Attending banking training, conferences, workshops or seminars	99.4	0.6	98.5	1.5
B.2.4	Engaging in knowledge sharing meetings or forums at the workplace.	98.8	1.2	94.1	4.5

A majority of the respondents (over 94 %) agreed that their bank applied the following practices to aid their learning of the adopted systems: Engaging in electronic communication sessions such as using emails or telephones, engaging in banking e-learning programmes like computer – aided learning, internet –based learning or mobile cell phone learning, attending banking training, conferences, workshops or seminars and

engaging in knowledge sharing meetings or forums at the workplace. For the open question B.1.6, a majority of the respondent group added the mobile and agent banking to be used in their organisations.

4.4.3 Open questions on the factors

In the open question under the individual employee factors (A.5), the tellers and customer care consultants stressed on the fact that lack of time hindered their learning at the workplace. On the other hand, the line managers felt that other than the workload, the age and education played a part in the majority of their team of employees' learning of the adopted banking ICT systems.

Question (C.5) under organisational factors also had some responses. The tellers and customer care consultants felt that the limited opportunity to attend training hindered their effective learning. They also felt that the line managers need to support them more to encourage effective learning.

The open question D.0 attracted some responses on factors that affected the learning of the adopted banking ICT systems. These included: The adoption of ineffective and inefficient banking ICT systems; poor change management; poor leadership styles; the use of centralized systems and the use of outdated learning materials.

From the open question E.13, additional strategies were given. The respondents felt that the organisation need to: improve on its' change management skills, offer equal opportunity to the employees for training, ensure the adopted systems are more secure, organize more effective training, incorporate the employees ideas and involve them in the decision making.

4.5 CONSTRUCT VALIDITY AND RELIABILITY: EXPLORATORY FACTOR ANALYSIS

Lani (2017) described factor analysis (FA) as a technique that is used to reduce a large number of variables into a smaller number. This description was in agreement with Pallant (2007) who had argued that unlike other analytical methodologies, FA aimed more at summarising the available raw data according to relationships among research variables rather than at testing the hypothesis.

In this study, the FA was carried out to assess the construct validity of the items in the various factors included in the two developed questionnaires. One questionnaire targeted the tellers and customer care consultants and the other questionnaire targeted the line managers. All the factors in the two questionnaires were first subjected to a Kaiser-Meyer-Olkin (KMO) test and Bartlett test of Sphericity in order to determine whether the FA would be appropriate to perform.

4.5.1 Sampling adequacy of the data

The KMO Measure of Sampling Adequacy was found to be above the recommended threshold of 0.5. The KMO test values ranged between 0.596 and 0.897 for the questionnaire that gathered responses from the tellers and customer care consultants (T&CCC), and between 0.519 and 0.873 for the questionnaire that gathered responses from the line managers (LM). The results of the Bartlett's Test of Sphericity were also found to be statistically significant ($p < 0.001$) for the items in all the factors (Field 2013). This indicated that FA was appropriate for each of the factors. The positive results from the KMO and Bartlett Tests were then followed by the Exploratory Factor Analysis.

4.5.2 Exploratory factor analysis

In this study, the Exploratory Factor Analysis (EFA) aims at assessing the construct validity of the identified individual employee, organisational and ICT systems based factors as well as the strategy factors that can optimally address these factors. The researcher followed the guidelines proposed by Hair *et al.* (2010) and Lani (2017) in order to identify the underlying latent variables present in the patterns of correlations in the set of measures.

The researcher used both Principal Component Analysis and Principal Axis Factoring to extract the factors. The researcher started off with using the Principal Component Analysis in order to test the questionnaire for the tellers and customer care consultants due to the fact that the factors identified were conceptualised from literature and the questionnaire had not been tested as an instrument elsewhere. As Principal Component Analysis is based on total variance, it was also decided to run the Exploratory Factor Analysis by using Principal Axis Factoring, based on common variance, to determine the stability of the factors identified. The same factor structure emerged. The Principal Axis Factoring method was used in conjunction with the Promax rotational technique with Kaiser Normalisation. Pallant (2007) argued that rotating data to extract the discrete factors allowed the identification of a pattern of loadings that would facilitate the interpretation of the data. The Promax rotation with Kaiser Normalisation rotated the items to reveal the composite factors. In the case of the Principal Component Analysis, varimax was used as a rotation method.

As shown in appendix B (i.e. that present the questionnaires used in the study), the responses to the items in the identified individual employee, organisational and ICT systems based factors were measured using a 5 point Likert type scale assessing their degree of agreement with the statements that varied from strongly disagree (1) to strongly agree (5).

The following criteria guided the number of factors to be extracted and items to be retained (Hair *et al*. 2010; Owen 1995):

- A Kaiser eigenvalue larger than 1.0.
- The theoretical expectation regarding both the number of factors and the interpretability of the factors obtained.
- The proportion of variance explained.
- Within each factor only items with a factor loading of 0.3 or higher is considered for inclusion.

4.5.3 Diagnostic statistics for the exploratory factor analysis

The factors investigated in the two questionnaires were arranged into four groups, namely the individual employee factors, the ICT systems factors, the organisational factors and strategy factors to support learning. When only one factor was identified, rotations of the items were not applicable. In cases where more than one factor was extracted, a Promax with Kaiser Normalisation rotation was performed. In various tables, diagnostic analyses for both questionnaires were presented. The Principal Component Analysis (PCA) was reported for the questionnaire for the tellers and customer care consultants (T&CCC), while the Principal Axis Factoring (PAF) analysis was applied to the questionnaire for the line managers (LM).

4.5.3.1 Individual employee factors

The Principal Component Analysis (Table 4.18) for the tellers and customer care consultants (T&CCC) indicated the extraction of one component only in each of the three original factors (constructs) named motivation, self-efficacy and attitude. The extraction of only one component meant that the items in the factors could not be rotated. Two components were extracted from the fourth factor originally named time management. The Promax with Kaiser Normalisation was used to rotate the items. These items converged in three (3) iterations. The extracted components were labelled as,

organisational time management and individual time management. The cumulative total variance explained by the five factors ranged between 56.48% and 70.53%.

The Principal Axis Factoring analysis (Table 4.20) for the line managers (LM) extracted one factor only in each of the four original factors (constructs) named motivation, self-efficacy, time management and attitude. The extraction of only one factor in each analysis meant that no rotation was done. The cumulative common variance explained by the four factors ranged between 38.06% and 62.27%.

Thus, in the case of individual employee factors, a total of five (5) factors were extracted for the tellers and customer care consultants and a total of four (4) factors were extracted for the line managers.

Table 4.20: Principal Component Analysis and the Principal Axis Factoring analysis for individual employees' factors.

	Questionnaire for Tellers and Customer Care Consultants				**Questionnaire for Line Managers**			
	Principal Component Analysis				**Principal Axis Factoring analysis**			
Individual employee factors	**KMO & Bartlett's test**	**Cumulative % variance explained**	**Component loading**	**Cronbach's Alpha**	**KMO & Bartlett's test**	**Cumulative % variance explained**	**Factor loading**	**Cronbach's Alpha**
Motivation Learning the adopted ICT systems:	.783; p<.001	56.48		.797	.691: p<.001	38.06		.727
Enables me/them to improve on my/their job performance.			.663				.401	
Is interesting.			.793				.748	
May lead me/them to a job promotion.			.705				.582	
Motivates me/them to develop my/their ICT skills.			.819				.630	
Creates in me/them a self-initiated approach to work related learning.			.768				.669	
Self-efficacy I am/They are:	.804; p<.001	64.47		.860	.834; p<.001	62.27		.883

Confident in my/their ability to learn the adopted ICT systems.			.711					.655	
Able to recognise learning opportunities that come my/their way.			.770					.781	
Able to use the adopted ICT systems on my/their own.			.829					.794	
Confident about my/their knowledge and skills in ICT systems.			.869					.928	
Confident about using any of the technical functions of the adopted ICT systems.			.826					.763	
Time management I/They:	.710; p<.001	70.53	**Organisational time management**	**Individual time management**	.716(2 items) .688(3 items)	.730; P<.001	52.27		.798
Am/are able to manage my/their own time to learn the adopted ICT systems.			-	.892			.749		
Am/are able to identify free time when at work.			-	.867			.806		
Take plenty of time to learn the adopted ICT systems.			**.911**	-			.330		
Have sufficient time to learn the adopted ICT systems.			.823	-			.788		
Use time on-the-job created by my/heir organisation to learn adopted ICT systems.			.541	-			.821		
Attitude I/They:	.817; p<.001	65.27			.854	.662; p<.001	57.09		.856
Perform my/their job tasks better when I/they learn the adopted ICT systems.			.581					.362	
Have a positive attitude towards my/their learning of the adopted ICT systems.			.877					.851	
Strive to be more efficient at work through learning more of the adopted ICT systems.			.854					.855	

Take an active approach to my/their work related learning.			.844				.862	
Am/are motivated by my prior ICT skills to learn the adopted ICT systems.			.845				.725	

4.5.3.2 ICT systems factors

The Principal Component Analysis (Table 4.21) for the tellers and customer care consultants showed the extraction of one component only in each of the seven original factors (constructs) named perceived: quality of information, quality of the ICT systems, ease of use, usefulness, language, graphics and computer anxiety. The extraction of only one component in each of the factors meant that the items could not be rotated. Two components were extracted from the eighth construct named perceived security. The Promax with Kaiser Normalisation was used to rotate the items and the items converged in three (3) iterations. The two components were then labelled as appropriate organisational security management and personal insecurity. The cumulative total variance explained by the nine factors ranged between 68.93% and 86.35%.

The findings of Principal Axis Factoring analyses (Table 4.21) for the line managers revealed the presence of one factor only in each of the following six original factors (constructs) named perceived: quality of information, quality of the ICT systems, the ease of use, language, graphics and computer anxiety. This meant the items could not be rotated. In each of the remaining two factors originally, namely the perceived usefulness and perceived security, the analysis attempted to extract factors using 1000 iterations, but the communality of a variable exceeded 1.0. Therefore, the extractions using the Principal Axis Factoring (PAF) Analysis was terminated. Principal Component Analysis (PCA) was subsequently used for the perceived usefulness and perceived security factors. In each of these, two factors were extracted. Varimax with Kaiser Normalisation was used to rotate the items and they converged in three (3) iterations. For the perceived usefulness factor the two extracted factors were labelled as job enhancement and specific learning goals. The perceived security factor split into two factors, namely

appropriate organisational security management and personal insecurity. The cumulative variance explained by the ten (10) factors ranged between 58.96% and 81.72%.

Thus, in the case of ICT system factors, a total of nine (9) factors were extracted for the tellers and customer care consultants and a total of ten (10) factors for the line managers.

Table 4.21: Principal Component Analysis and the Principal Axis Factoring analysis for ICT systems factors.

	Questionnaire for Tellers and Customer care consultants				**Questionnaire for Line managers**			
	Principal Component Analysis				**Principal Axis Factoring Analysis**			
ICT systems factors	**KMO & Bartlett's test**	**Cumulative % variance**	**Component loading**	**Cronbach's Alpha**	**KMO & Bartlett's test**	**Cumulative % variance**	**Component loading**	**Cronbach's Alpha**
Perceived quality of information The information on the adopted ICT systems:	.866; p<.001	75.56		.917	.824; p<.001	62.82		.884
Is relevant to learn.			.834				.507	
Is accurate to learn.			.898				.870	
Can be easily understood.			.887				.912	
Is complete to learn.			.860				.914	
Is interesting to read.			.866				.678	
Perceived quality of the ICT systems The adopted ICT systems:	.858; p<.001	69.87		.889	.782; P<.001	58.96		.864
Are reliable to perform my/their job tasks.			.765				.476	
Are flexible to use.			.815				.760	
Have a fast response when given the right command.			.869				.856	
Are sustainable.			.862				.839	
Have clear instructions to follow.			.863				.841	
Perceived ease of use The adopted ICT systems:	.866; p<.001	82.93		.943	.816; P<.001	71.13		.921
Use understandable terms.			.919				.880	
Are easy to use.			.921				.866	
Are easy to learn.			.940				.867	
Have friendly technical functions to use.			.920				.837	
Have learning materials that are free of effort to find.			.852				.762	
Perceived usefulness The adopted ICT systems:	.810; p<.001	68.93		.866	.652; P<.001	81.72	**Principal Component**	.812 (3 items);

							Analysis (PCA)		.888 (2 items)
							Perceived job enhancement	**Specific learning goals**	
Enhance my/their job performance.			.834				.910	_	
Ease my/their job tasks.			.835				.875	_	
Are very efficient to achieve my/their ICT learning goals.			.864				_	.919	
Are useful to learn.			.895				.691		
Are comprehensive to cover all my/their learning needs.			.712				_	.941	
Perceived security	.596; p<.001	76.27	**Appropriate organisational security management**	**Personal insecurity**		.519; P<.001	78.80	**Principal Component Analysis (PCA)**	
							Appropriate organisational security management	**Personal insecurity**	
My/their work related transactions are protected adequately against unauthorised access.			_	.821	.687 (3 items)			.811	_	.720 (3 items)
I/they take appropriate security measures when using the adopted banking ICT systems.			-	.845				.904	_	
I am/they are afraid that transaction errors may occur when I/they use the adopted ICT systems.			.929	-	.900 (2 items)			_	.959	.926 (2 items)
I am/they are afraid that my job account can be hacked.			.961	-				_	.959	
I/they operate the adopted ICT systems using the right commands.			-	.697				.701		
Language used	.841; p<.001	86.35			.960	.803; P<.001	67.66			.910
The ICT systems are designed in a familiar language.			.934					.777		
It is easy for me/them to read the language used in the adopted ICT systems.			.935					.831		
The use of jargons (technical terms) is minimised in the adopted ICT systems.			.914					.912		
Clear definitions of technical terms used are provided in the adopted ICT systems.			.918					.848		
The simple language used encourages my/their quick understanding of the adopted ICT systems.			.945					.733		
Graphics The adopted ICT systems:	.879; p<.001	80.36			.939	.694: P<.001	68.42			.913
Have relevant diagrams.			.877					.910		
Have quality pictures.			.904					.802		

Use colour to highlight key points for easier reading.			.933				.848	
Avoid the use of complex graphics.			.857				.685	
Balance the amount of text with the graphics.			.909				.872	
Computer anxiety Working with computers makes me/them:	.885; p<.001	80.04		.934	.873; P<.001	75.02		.926
Nervous.			.972				.936	
Uncomfortable.			.959				.977	
Worried whether I/they will succeed to learn the adopted ICT systems.			.983				.941	
Scared.			.966				.970	
I/they have basic knowledge and skills in ICT.			.486				.310	

4.5.3.3 Organisational factors

The Principal Component Analysis (Table 4.22) for the tellers and customer care consultants showed that in each of the four original factors (constructs) named: learning culture, social support, rewards and recognition and job characteristics, only one component could be extracted. With the extraction of only one component in each of the factors, the items could not be rotated. The cumulative total variance explained by the four factors ranged between 63.27% and 73.44%.

The findings of the Principal Axis Factoring (PAF) analysis (Table 4.22) for the line managers revealed the presence of one factor only in each of the three factors in the organisational group, namely the: learning culture, social support and rewards and recognition. Two factors were extracted from the fourth factor originally named job characteristics. The Promax rotational technique with Kaiser Normalisation was applied to rotate the items. The extracted factors were then labelled as the expected job characteristics and the freedom to be innovative. The total variance explained by the four initial factors ranged between 56.47% and 73.07%.

Thus, in the organisational factors, a total of 4 factors were extracted for the tellers and customer care consultants and a total of 6 factors for the line managers.

Table 4.22: Results of the Principal Component Analysis and the Principal Axis Factoring analysis for organisational factors.

	Questionnaire for Tellers and Customer care consultants				Questionnaire for Line managers			
	Principal Component Analysis				Principal Axis Factoring analysis			
Organisational factors	**KMO & Bartlett's test**	**Cumulative % of variance explained**	**Component loading**	**Cronbach's Alpha**	**KMO & Bartlett's test**	**Cumulative % of variance explained**	**Component loading**	**Cronbach's Alpha**
Learning culture In my/our organisation:	.791; p<.001	63.27		.834	.747; P<.001	58.52		.820
There is continuous learning.			.687				.732	
I am/they are guided to define my ICT learning objectives.			.753				.854	
I am/they are allowed to make mistakes when learning the adopted ICT systems.			.669				.435	
There are a lot of opportunities that support my/their learning of the adopted ICT systems.			.919				.754	
I am/they are provided with a variety of ICT learning programmes to bridge my/their ICT skills and knowledge gaps.			.912				.950	
Social support	.807; p<.000	67.26		.864	.790; P<.000	56.47		.855
I am/they are motivated to learn the adopted ICT systems when my peers support me.			.841				.458	
My/their learning of the adopted ICT systems is enhanced when my/their manager clearly defines my /their learning goals.			.855				.648	
I am/they are encouraged when my/their manager shows an interest in my/their learning of the adopted ICT systems.			.880				.782	
I/they perform my/their job tasks better when my/their manager coaches me.			.704				.926	
I/they achieve my/their ICT learning goals that my/their manager set.			.809				.852	
Rewards and recognition In my/our organisation:	.863; p<.000	73.44		.904	.715; P<.000	56.73		.856
I am/they are motivated to learn the adopted ICT systems when an appropriate reward and recognition is given to me.			.884				.697	
I/they appreciate concrete and tangible rewards when I /they acquire the desired ICT knowledge and skills.			.877				.742	
I am/they are encouraged to learn the adopted ICT systems when I/they get a positive appraisal.			.880				.915	
My/their knowledge and skills in ICT acquired prior to the workplace training programmes are recognised.			.838				.666	
I/they receive incentives for meeting my/their learning goals in the adopted ICT systems.			.803				.721	
Job characteristics In my/our organisation:	.801; p<.000	67.26		.875	.737; p<.000	73.07	**Principal Axis Factoring (PAF)**	.886(3 items):

							Expected job characteristics	Freedom to be innovative	.737(2 items)
I/they receive sufficient ICT learning opportunities to successfully adjust to the workplace challenges.			.796				.860	-	
My/their job allows the full use of my/their ICT knowledge and skills.			.842				1.000	-	
I am/they are positively pressured to achieve my/their ICT learning goals.			.800				.555		
My/their job is characterised by some form of independence in which I/they can make my own ICT systems' related decisions.			.844				-	.665	
My/their manager encourages me/them to infuse new ICT ideas into my work.			.817				-	.960	

4.5.3.4 Strategy factors to support learning

The Principal Component Analysis (PCA) for the data from the questionnaire that targeted the tellers and customer care consultants extracted two components from the strategy factor. Promax rotational technique with Kaiser Normalisation was used to rotate the items and they converged in 3 iterations. The extracted components/factors were thus named supportive learning strategies and directive learning strategies. The cumulative total variance explained by the two factors was 70.61%.

Principal Axis Factoring (PAF) analysis attempted to extract two components from the strategy construct using 2000 iterations in the case of the line managers (LM). The communality of a variable exceeded 1.0. This led to the termination of the extraction. Subsequently, the Principal Component Analysis (Table 4.23) was used. The PCA was able to extract two components from the strategy factor. Varimax rotational technique was used to rotate the items and they converged in 3 iterations. The extracted components/factors were thus named supportive learning strategies and directive learning strategies. The cumulative total variance explained by the two factors was 67.45%.

Thus, in the strategy factors, a total of 2 factors were extracted for the tellers and customer care consultants and the line managers respectively.

Table 4.23: Principal Component Analysis for the strategy factors.

	Questionnaire for Tellers and Customer care consultants					Questionnaire for Line managers				
	Principal Component Analysis					Principal Component Analysis				
Strategy factors	**KMO & Bartlett's test**	**Cumulative % variance explained**	**Component loading**		**Cronbach's Alpha**	**KMO & Bartlett's test**	**Cumulative % variance explained**	**Component loading**		**Cronbach's Alpha**
My/Our organisation needs to:	.897; p>.001	70.61	**Supportive learning strategies**	**Directive learning strategies**		.830; p>.001	67.45	**Supportive learning strategies**	**Directive learning strategies**	
Offer mentorship programmes to motivate employees to learn the adopted ICT systems.			-	.938	.883 (5 items)			.559	-	.865 (8 items)
Align employees' learning needs to the fulfilment of their job obligations.			-	.894				-	.850	.921 (3 items)
Allow more learning time for the adopted ICT systems during work hours.			-	.773				.590	-	
Promote the usefulness of the adopted ICT systems in order to create positive attitudes amongst the employees.			-	.650				.738		
Identify the employees' learning needs when defining the organisational objectives.			-	.591				.802		
Encourage both managerial and peer coaching for effective job performance.			.448	-	.915 (6 items)			.665		
Recognise and reward employees' informal learning through a formal assessment and evaluation process.			.689	-				.769		
Organise regular ICT training programmes to bridge the employees' knowledge and skills gaps in the adopted ICT systems.			.797	-				.744		
Regularly evaluate the effectiveness of the adopted ICT systems.			.929	-				-	.852	
Ensure that effective security measures exist to prevent unauthorised access to the adopted ICT systems.			1.000	-				-	.957	
Ensure that the designs of ICT learning programmes incorporate learners' competency development needs.			.812	-				.711	-	

For the target group of the tellers and customer care consultants (T&CCC), the Exploratory Factor Analysis (EFA) confirmed that three factors named time management, perceived security and strategy were non-unidimensional, while the rest were

unidimensional. Factors labelled as organisational time management and individual time management were extracted from the time management factor. Factors labelled as the appropriate organisational security management and personal insecurity were extracted from the perceived security factor. Finally, factors labelled as the supportive learning strategies and the directive learning strategies were extracted from the strategy factor.

For the line managers (LM), the EFA confirmed that four factors named perceived usefulness, perceived security, job characteristics and strategies were non-unidimensional, while the rest were unidimensional. Two factors labelled perceived job enhancement and specific learning goals were extracted from the perceived usefulness factor. Appropriate organisational security management and personal insecurity factors were extracted from the perceived insecurity factor. Finally the expected job characteristics and freedom to be innovative were extracted from the job characteristics factor.

It was also confirmed that the internal consistency (reliabilities) for the constructs, as measured through the Cronbach Alpha coefficient were all above the recommended exploratory threshold of 0.6. Factor-based variables were subsequently created for each construct by using the mean value of the set of items in each construct.

A total of twenty (20) factors were extracted and used in this study for the tellers and customer care consultants (T&CCC) group. These were named under the following categories:

- The individual employee factors comprised of: the motivation, self-efficacy, individual time management, organisational time management and attitude.
- The ICT systems factors comprised of: the perceived quality of information, quality of the ICT systems, the ease of use, perceived usefulness, appropriate organisational security management, personal insecurity, the language used, graphics and computer anxiety.

- The organisational factors comprised of: the learning culture, social support, reward and recognition, and job characteristics.
- The strategy factors to support learning comprised of: the directive learning strategies and supportive learning strategies.

A total of twenty one (21) factors were extracted and used in this study for the line managers' (LM) group. These were named under the following categories:

- The individual employee factors comprised of: the motivation, self-efficacy, time management and attitude.
- The ICT systems factors comprised of: the perceived quality of information, quality of the ICT systems, the ease of use, perceived job enhancement, specific learning goals, appropriate organisational security management, personal insecurity, the language used, graphics and computer anxiety.
- The organisational factors comprised of: the learning culture, social support, reward and recognition, expected job characteristics and freedom to be innovative.
- The strategy factors to support learning comprised of: the directive learning strategies and supportive learning strategies.

4.6 DESCRIPTIVE STATISTICS FOR THE FACTORS

In descriptive statistics, the data is only described and no conclusions or inferences are made (Foxcroft & Roodt 2006; Triola 2017). In this study, descriptive statistical analyses are conducted in order to determine the frequency distributions of the identified factors that affect learning of the banking ICT systems. These frequency distributions translate the raw numerical data set into statistical means, medians, percentages and cumulative percentages. The frequency distributions also reflect standard deviations, and standard errors.

This section (Section 4.6) will address the first and second empirical study objectives. That is, it will report on the descriptive statistics that determine the level of agreement

regarding each of the individual employee, organisational and ICT systems based factors, as perceived by the respondent groups (the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group) in the Kenyan retail banks. This will answer the research objective 1. The section will also report on the descriptive statistics that determine the level of agreement regarding each of the strategy factors, as perceived by the respondent groups (the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group) in the Kenyan retail banks that can optimally address the factors that support learning of the adopted banking ICT systems before undergoing training. This will answer the research objective 2.

4.6.1 Means and standard deviations, kurtosis, skewness and frequency data

The means (*M*), median, standard deviations (*SD*), skewness and kurtosis were computed for the identified factors for both the line managers and the tellers and customer care consultants. The mean is a statistical model of the centre of the distribution of the scores (Field 2013; Triola 2017). The mean score is calculated by summing all the individual scores in the subscale and then dividing the total score by the number of items in the subscale. Triola (2017) defines a standard deviation as a "measure of the extent to which a group of scores vary about their mean". In a small standard deviation, the scores cluster closely around the mean whereas in a large standard deviation, the scores deviate considerably from the mean (Triola 2017). Skewness is a measure of the symmetry of a frequency distribution, where symmetrical distributions have a skewness of 0 (Field 2013; Kim 2013). A positive skew value indicates that the tail on the right side of the distribution is longer than that on the left side and that most of the values are clustered to the left of the mean (Kim 2013). In contrast, a negative skew value indicates that the tail on the left side of the distribution is longer than that on the right side and that most of the values are clustered to the right of the mean (Kim 2013). An absolute skew value greater than 2 is a reference of a large divergence from normality (Tiola 2017).

Field (2013) had mentioned that kurtosis would measure the degree at which scores cluster in the tails of a frequency distribution. Kurtosis is concerned with whether the data is peaked or flat in relation to the normal distribution. The original kurtosis value is sometimes called kurtosis (proper) and a normal distribution is referred to as a mesokurtic distribution or bell-shaped distribution (Mayers 2013). A distribution with positive kurtosis has many scores in the tails, has a peak and is known as a leptokurtic distribution (Field 2013; Kim 2013; Mayers 2013). In contrast, a distribution with negative kurtosis is relatively thin in the tails, tends to be flatter than normal and is known as a platykurtic distribution (Field 2013; Kim 2013; Mayers 2013). West *et al.* (1995) and Triola (2017) suggested a reference of substantial departure from normality as an absolute kurtosis (proper) value > 7. George and Mallery (2010) gave an indication that kurtosis values between -2 and 2 were considered acceptable. While, Brown (2015) suggested that kurtosis values between -3 and 3 were considered acceptable in order to show a normal distribution.

The next sections (Sections 4.6.1.1 and 4.6.1.2) will provide the descriptive information on the factors that affect the learning of the adopted banking ICT systems as received from the respondents of the two questionnaires. The means, medians, standard deviations, skewness, kurtosis and frequency data of the items in the questionnaires have been calculated and reported. The rationale for performing descriptive statistics for each of the factors in these sections (Sections 4.6.1.1 and 4.6.1.2) was to achieve the research objectives 1 and 2.

4.6.1.1 Descriptive statistics for the tellers and customer care consultants

The scores of the factors for the tellers and customer care consultants ranged from 1.00, as the minimum score to 5.00, as the maximum score. This section provides the descriptive information for twenty (20) factors. Table 4.24 shows the descriptive statistics of the 20 factors for teller and customer care consultants (T&CCC).

Table 4.24: Descriptive statistics of the factors in the questionnaire for tellers and customer care consultants.

Factors for T&CCC group	Mean	Median	Std. Deviation	Skewness	Kurtosis	Minimum	Maximum
Motivation	4.39	4.40	0.495	-0.798	1.100	2.40	5.00
Self-efficacy	4.44	4.40	0.496	-0.701	0.667	2.60	5.00
Individual time management	4.21	4.00	0.699	-0.877	1.043	2.00	5.00
Organisational time management	3.63	3.67	0.937	0.006	-0.955	1.33	5.00
Attitude	4.36	4.20	0.503	-0.535	0.320	2.60	5.00
Quality of information	4.20	4.00	0.666	-0.663	0.466	2.00	5.00
Quality of ICT systems	4.21	4.20	0.637	-0.849	1.230	1.80	5.00
Ease of use	4.17	4.00	0.772	-1.34	2.350	1.40	5.00
Usefulness	4.33	4.40	0.587	-0.858	0.794	2.00	5.00
Language used	4.33	4.40	0.587	-0.858	0.794	2.00	5.00
Graphics	4.05	4.00	0.813	-0.858	0.523	1.60	5.00
Appropriate organisational security management	4.32	4.33	0.567	-0.624	0.569	2.33	5.00
Personal insecurity	3.42	4.00	1.363	-0.391	-1.237	1.00	5.00
Computer anxiety	2.76	2.40	1.290	0.637	-0.955	1.00	5.00

Learning culture	3.87	4.00	0.794	-0.245	-0.877	2.00	5.00
Social support	4.22	4.20	0.581	-0.683	0.709	2.20	5.00
Reward and recognition	4.15	4.00	0.688	-0.936	1.160	1.60	5.00
Job characteristics	3.78	4.00	0.899	-0.319	-0.637	1.20	5.00
Supportive learning strategies	4.41	4.50	0.520	-0.715	0.319	2.67	5.00
Directive learning strategies	4.49	4.60	0.560	-1.008	1.168	2.20	5.00

As shown in Table 4.24, the mean scores (M) for the twenty (20) factors ranged from 2.76 to 4.49. The highest mean score (M=4.49; SD=0.56) was for the factor named directive learning strategies, while the lowest mean score (M=2.76; SD=1.29) was for the factor named computer anxiety. The standard deviations of the factors had values ranging from 0.495 (for the motivation factor) to 1.363 (for the personal insecurity factor). The kurtosis values ranged from -1.237 (for the personal insecurity factor) to 2.350 (for the ease of use factor) and the skewness from -1.340 (for the ease of use factor) to 0.637 (for the computer anxiety factor) thereby falling within the kurtosis values ranging between -3.000 and 3.000 as was recommended by Brown (2015). It was therefore assumed that all the identified factor variables were normally distributed.

4.6.1.2 Descriptive statistics for the line managers

The scores in the factors making up the questionnaire for the line managers (LM) ranged from a minimum score of 1.00 to a maximum score of 5.00. This section provides the descriptive information for twenty one (21) factors. Table 4.25 shows the descriptive statistics of 21 factors for the line managers.

Table 4.25: Descriptive statistics for the questionnaire for the line managers.

Factors for LM group	Mean	Median	Std. Deviation	Skewness	Kurtosis	Minimum	Maximum
Motivation	4.39	4.30	0.446	0.053	-1.160	3.40	5.00
Self-efficacy	4.07	4.00	0.641	-0.810	1.440	2.00	5.00
Time management	3.78	3.80	0.790	-0.530	0.210	1.60	5.00
Attitude	4.18	4.20	0.593	-0.380	-0.190	2.60	5.00
Quality of information	4.43	4.40	0.546	-0.496	-0.610	3.00	5.00
Quality of ICT systems	4.42	4.60	0.560	-0.592	-0.850	3.20	5.00
Ease of use	4.39	4.60	0.648	-1.070	0.960	2.20	5.00
Job enhancement	4.57	4.67	0.457	-0.480	-1.330	3.70	5.00
Specific learning goals	4.38	4.50	0.723	-1.920	5.690	1.50	5.00
Language used	4.29	4.20	0.675	-1.110	1.740	2.00	5.00
Graphics	4.25	4.20	0.774	-1.520	3.310	1.20	5.00
Appropriate organisational security management	4.22	4.33	0.573	-0.634	0.945	2.30	5.00
Personal insecurity	2.85	3.00	1.231	0.307	-0.991	1.00	5.00
Computer anxiety	2.84	2.40	1.160	0.748	-0.840	1.60	5.00
Learning culture	4.20	4.20	0.694	-1.520	2.910	1.60	5.00

Social support	4.28	4.20	0.555	-0.712	0.820	2.6	5.00
Reward and recognition	4.23	4.20	0.566	-0.999	2.630	2.00	5.00
Expected job characteristics	4.31	4.00	0.608	-0.726	0.941	2.30	5.00
Freedom to be innovative	3.96	4.00	0.777	-0.745	0.248	2.00	5.00
Supportive learning strategies	4.31	4.25	0.440	-0.164	0.365	3.00	5.00
Directive learning strategies	4.28	4.33	0.690	-2.234	8.220	1.30	5.00

From Table 4.25, it was noted that the mean scores (M) of the twenty one (21) factors ranged from 2.84 to 4.57. The highest mean score (M=4.57; SD=0.457) was for the factor named the perceived job enhancement, while the lowest mean score (M=2.84; SD=1.16) was for the factor named the computer anxiety. The range of the standard deviations was from 0.440 (for the supportive learning strategies factor) to 1.160 (for the computer anxiety factor). The skewness ranged between -2.234 (for the directive learning strategies) and 0.748 (for the computer anxiety factor). The kurtosis values ranged from -1.330 (for the job enhancement factor) to 8.220 (for the directive learning strategies). It was therefore assumed that all the identified factors were normally distributed, except in the case of the graphics, specific learning goals and directive learning strategies factors, which had kurtosis values falling outside the recommended range -3.000 to 3.000 (Brown 2015).

4.6.2 Interpretation of the means and standard deviations for the questionnaires

From the questionnaire that targeted the tellers and customer care consultants: high mean scores greater than 4.00 were obtained for the factors named: Directive learning

strategies (M=4.49), self-efficacy (M=4.44), supportive learning strategies (M=4.41), motivation (M=4.39), attitude (M=4.36), usefulness (M=4.33), language used (M=4.33), appropriate organisational security management (M=4.32), social support (M=4.22), quality of the ICT systems (M=4.21), quality of the information (M=4.20), perceived ease of use of the ICT systems (M=4.17), rewards and recognition (M=4.15) and ICT systems' graphics (M=4.05). This showed that the respondents (the tellers and customer care consultants) seemed to agree with the statements in the factors above that were identified to support the learning of the adopted banking ICT systems amongst the retail banking employees.

The directive learning strategies factor was scored the highest and this factor was followed by the self-efficacy factor. This showed that the tellers and customer care consultants expected their retail banking organisation to: align employees' learning needs to the fulfilment of their job obligations; regularly evaluate the effectiveness of the adopted ICT systems; and ensure that effective security measures exist to prevent unauthorised access to the adopted ICT systems. The high mean scores on the self-efficacy factor meant that the tellers and customer care consultants perceived themselves to be: confident in their ability to learn the adopted ICT systems, able to recognise learning opportunities that come their way, able to use the adopted ICT systems on their own, confident about their knowledge and skills in ICT systems and confident about using any of the technical functions of the adopted ICT systems.

However, the tellers and customer care consultants scored means less than 4.00 in the following factors named: the learning culture (M=3.87), the job characteristics (M=3.78), the organisational time management (M=3.63), the personal insecurity (M=3.42) and the computer anxiety (M=2.76). The factor that was linked to the computer anxiety had the smallest mean value (M=2.76). This is because most of the respondents (over 66%) either strongly disagreed or disagreed with the statements that working with computers: made them nervous, uncomfortable, and scared or that they are worried whether they would succeed to learn the adopted ICT systems. This meant that the respondents were not anxious when working with the adopted ICT systems.

From the results of the questionnaire targeting the line managers: high scores with means greater than 4.00 were obtained for factors named the job enhancement (M=4.57), the quality of information (M=4.43), the quality of the ICT systems (M=4.42), the ease of use of the adopted ICT systems (M=4.39), the motivation (M=4.39), specific learning goals (M=4.38), the expected job characteristics (M=4.31), the supportive learning strategies (M=4.31), the language used in the systems (M=4.29), the social support (M=4.28), the directive learning strategies (M=4.28), the graphics used in ICT systems (M=4.25), the rewards and recognition (M=4.23), the appropriate organisational security management (M=4.22), the learning culture (M=4.20), the attitude (M=4.18) and the self-efficacy (M=4.07). This showed that the line managers were in agreement with the statements in a majority of the factors with regard to how these factors that support the learning of the banking ICT systems before their subordinate staff attend formal training.

The factor linked to the job enhancement had the highest mean scores. The line managers perceived that for the majority of their team of employees the adopted ICT systems enhanced their job performance, eased their job tasks, were very efficient to achieve their ICT learning goals, were useful to learn and were comprehensive to cover all their learning needs. The factors named: the freedom to be innovative (M=3.96), the time management (M=3.78), the personal insecurity (M=2.85) and the computer anxiety (M=2.84) had means less than 4.00. The computer anxiety factor had the lowest mean. This meant that the line managers also disagreed or strongly disagreed with the statements that working with computers made the majority of their team of employees nervous, uncomfortable, scared, and worried whether they will succeed to learn the adopted systems.

The tellers and customer care consultants perceived themselves to have acquired appropriate time management behaviour through increased knowledge, training or deliberate practice (MacCann, Fogarty & Roberts 2012). However, there was need for them to take time to learn the adopted ICT systems. According to Mac Cann *et al.,*

(2012), inappropriate time management practices such as not allocating sufficient time for work-related learning assignments frequently resulted in stress and poor transfer of what had been learnt at the workplace. Jarvensivu and Koski (2012) also mentioned that the blurring of the borders of work and free time negatively affected employees' autonomy to time management at the workplace. Therefore, the management needed to allow an uninterrupted time formally reserved for the employees to undertake their work-related learning (Seraphim 2010).

According to a study done by Nzuve and Omolo (2012), the practice of the learning organisation and organisational performance were inversely related. This meant that a learning culture was necessary for the banks to survive the onslaught of competitive forces in the global market (Nzuve & Omolo 2012: Froehlich, Segers & Van den Bossche 2014). A learning culture may create either an expansive or a restrictive environment in an organisation. Fuller and Unwin (2011) wrote that while conditions that were expansive created rich opportunities for learning, restrictive conditions created barriers to learning at the workplace. Therefore the management ought to create an environment where learning was supported.

In their investigation, Cho and Kim (2016) found that job characteristics had a direct impact on the workplace learning. A job that had a lot of work pressure such as a limited time to do much work activities could enjoy a number of opportunities to satisfy the job demands for the employee learning to take place (Gijbels *et al.* 2012). These opportunities could be defined by the extent to which the employees could make independent decisions for themselves and make full use of their skills (De Witte *et al.* 2005). Besides ensuring that the job demand and the job control were in balance, good relations with colleagues and the ability to adjust to the work related changes also supported the employees' learning at the workplace.

It was worth noting that both the respondent groups scored low on the perceived personal insecurity factor. The adoption of electronic banking (e-banking) systems introduced new risks hence required new risk management strategies. The retail banking

employees would engage in learning and using the systems if their security was assured (Fonchamnyo 2013; Gikandi & Bloor 2010). Therefore the management needed to ensure that the adopted systems were adequately secured against unauthorised access.

Using the frequency distribution results in Tables 4.24 and 4.25, the mean differences between the two respondent groups with regard to their level of agreement on the individual employee, organisational and ICT systems based factors which affected their learning of the adopted banking ICT systems before undergoing training were deduced. The results from Tables 4.24 and 4.25 suggested that there were high mean differences found in the factors named the self-efficacy (M=4.44 and M=4.07), the individual time management (M=4.21 and M=3.78), the learning culture (M=3.87 and M=4.20), the expected job characteristics (M=3.78 and M=4.31) and the personal insecurity (M=3.42 and M=2.85), respectively for the tellers and customer care consultants and the line managers. It was also noted that there was no high mean differences found in the remaining factors such as the motivation, attitude, organisational time management, quality of information, quality of ICT systems, job enhancement, specific learning goals, language used, graphics, appropriate organisational security management, personal insecurity, computer anxiety, social support, reward and recognition, freedom to be innovative, supportive learning strategies and directive learning strategies for both respondent groups.

Therefore, section 4.6 has provided the supportive evidence of the first and the second objectives, namely to:

- Determine the level of agreement regarding each of the individual employee, organisational and ICT systems based factors, as perceived by the respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) in the Kenyan retail banks, which affect their learning of the adopted banking ICT systems before undergoing training (Research objective 1).
- Determine the level of agreement regarding each of the strategy factors as perceived by the respondent groups (the tellers and customer care consultants as the first group

and the line managers as the second group) in the Kenyan retail banks that can optimally address the factors that support learning of the adopted banking ICT systems before undergoing training (Research objective 2).

4.7 SUMMARY

This Chapter 4 reported on the descriptive statistics, factor and correlation analyses of data and the discussion of the statistical results. The presented, analysed and discussed results were reported with regard to the two target groups, namely the tellers and customer care consultants (in group 1) and the line managers (in group 2).

Demographical characteristics: In group 1 (the tellers and customer care consultants), just over half 54.4% were male; the vast majority were between the age of 18 and 40 years (91.1%); had a minimum of a degree (91.7%); had a formal training in ICT (98.8%); were permanently employed (91.7%); 71.6% had a working experience with banking ICT systems for up to 5 years; and more than half (57.9%) had undergone at least 3 training workshops or seminars or conferences.

In group 2 (the line managers), 67.6% of them were male; the vast majority were between the age of 31 and 50 years (83.8%); had a minimum of a degree (82.4%); had a formal training in ICT (99.9%); were permanently employed (97.1%); 88.2% had a working experience with banking ICT systems for at least five years; and a majority (91.1%) of them had undergone at least three training workshops or seminars or conferences.

Factor analysis: Exploratory factor analysis was conducted. The researcher used Principal Axis Factoring (PAF) to extract the factors. In the case where the Principal Axis Factoring could not extract factors, the Principal Component Analysis (PCA) was used. A total of twenty (20) factors were extracted for the tellers and customer care consultants, and a total of twenty one (21) factors were extracted for the line managers. These factors were grouped under the individual employee, organisational, ICT systems and strategy

factors categories for both the tellers and customer care consultants, and the line managers target groups. Under the individual employee factors: motivation, self-efficacy, individual time management, organisational time management and attitude were identified. Under the organisational factors: learning culture, social support, rewards and recognition, expected job characteristics and freedom to be innovative were identified. The ICT systems factors included quality of information, quality of systems, the ease of use, job enhancement, specific learning goals, appropriate organisational security management, personal insecurity, the language used, graphics and computer anxiety. For strategies that support learning factor category, the directive learning strategies and supportive learning strategies were the two factors identified. It was also confirmed that the internal consistency (reliabilities) for the constructs, as measured through the Cronbach Alpha coefficient were all above the recommended threshold of 0.7.

Descriptive statistics: In group 1 (the tellers and customer care consultants), the mean scores (M) for the subscales ranged from 2.76 to 4.49. The highest mean score (M=4.49; SD=0.56) was for the factor named directive learning strategies, while the lowest mean score (M=2.76; SD=1.29) was for the factor named computer anxiety. In group 2 (the line managers), the mean scores (M) of the factors was ranging from 2.84 to 4.57. The highest mean score (M=4.57; SD=0.457) was for the factor called the perceived job enhancement, while the lowest mean score (M=2.84; SD=1.16) was for the factor known as the computer anxiety. The results from group 1 (the tellers and customer care consultants) showed that the tellers and customer care consultants had relatively high level of agreement with the statements. The results from group 2 (the line managers) also showed that the line managers were in agreement with the statements in the various factors with regard to how they perceived the majority of their team of employees.

In Chapter 5, results from the tests for the statistical significant mean differences between the two respondent groups regarding their level of agreement on the individual employee, organisational and ICT systems based factors as well as on the strategy factors that can optimally address the factors that support learning will be reported. The chapter will further report on and discuss the results from the tests for the statistical

significant mean differences between the categories defined for each demographic variable with regard to the individual employee, organisational and ICT systems based factors for each respondent group.

CHAPTER 5 : INFERENTIAL STATISTICAL ANALYSIS AND DISCUSSIONS OF THE RESULTS

5.1 INTRODUCTION

Chapter 1 covered the scientific orientation to the research regarding identifying the factors that support the learning of the retail banking ICT systems: a western Kenyan region perspective. Chapter 2 dealt with the conceptualisation of the factors that affect the learning of the adopted ICT systems at the workplace. In Chapter 3, the quantitative research methodology applied in the study was discussed. Chapter 4 presented the demographics of the target respondents, descriptive statistics, factor analysis and discussions of the findings.

In Chapter 5, inferential statistical tests have been performed to assess whether the two groups (the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group) had statistically significant differences regarding their mean scores for the factors in the questionnaires. Both parametric and non-parametric tests (where group sizes were small) have been performed to assess whether there were statistically significant differences between the categories of each demographic variable regarding their mean scores for the factors.

These tests have been considered relevant for the research objectives 3, 4, 5, 6 and 7 which were to empirically:

- Determine the linear relationship between the individual employee, organisational, ICT systems and strategy based factors for each respondent group (the tellers and customer care consultants as the first group and the line managers as the second group). (Research objective 3). (**Ha1:** *There are linear relationships between the individual employee, organisational, ICT systems and strategy based factors for each respondent group*).

- Investigate whether statistically significant differences exist between the two respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) with regard to their level of agreement on each of the individual employee, organisational and ICT systems based factors that affect their learning of the adopted banking ICT systems before undergoing training (Research objective 4). (**Ha2:** *There are statistically significant differences between the two respondent groups with regard to their level of agreement on each of the individual employee, organisational and ICT systems based factors that affect their learning of the adopted banking ICT systems before undergoing training*). Each factor was tested individually for each respondent group.
- Investigate whether statistically significant differences exist between the two respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) with regard to their level of agreement on each of the strategy factors that can optimally address the factors that support learning of the adopted banking ICT systems before undergoing training (Research objective 5). (**Ha3:** *There are statistically significant differences between the two respondent groups with regard to their level of agreement on each of the strategy factors that can optimally address the factors that support learning of the adopted banking ICT systems before undergoing training*). Each factor was tested individually for each respondent group.
- Investigate whether statistically significant differences exist between the categories defined for each demographic variable (gender, age, highest level of education, highest qualification in ICT, job position, employment status, experience with the banking ICT systems and the number of training programmes attended before) with regard to each of the individual employee, organisational and ICT systems based factors for each respondent group (tellers and customer care consultants as one group and the line managers as the second group). (Research objective 6). (**Ha4:** *There are statistically significant differences between the categories defined for each demographic variable with regard to each of the individual employee, organisational and ICT systems based factors for each respondent group*). Each factor was tested individually for each respondent group.

- Investigate whether statistically significant differences exist between the categories defined for each demographic variable (gender, age, highest level of education, highest qualification in ICT, job position, employment status, experience with the banking ICT systems and the number of training programmes attended before) with regard to each of the strategy factors for each respondent group (tellers and customer care consultants as one group and the line managers as the second group). (Research objective 7). (**Ha5:** *There are statistically significant differences between the categories defined for each demographic variable with regard to each of the strategy factors for each respondent group*). Each factor was tested individually for each respondent group.

The researcher tested the hypotheses by making use of the inferential statistical analysis. The statistical results/findings of the study have been reported as follows:

- Reporting on the Pearson product-moment correlations between the individual employee, organisational, ICT systems and strategy factors for each respondent group (This will answer research objective 3).
- Reporting on the tests for the statistical significant differences between the two respondent groups regarding their level of agreement on the individual employee, organisational and ICT systems based factors that affect learning (This will answer the research objective 4).
- Reporting on the tests for the statistical significant differences between the two respondent groups regarding their level of agreement on the strategy factors that can optimally address the factors that support learning (This will answer the research objective 5).
- Reporting on the tests for the statistical significant differences between the categories defined for each demographic variable with regard to the individual employee, organisational and ICT systems based factors for each respondent group (This was to answer the research objective 6).
- Reporting on the tests for the statistical significant differences between the categories defined for each demographic variable with regard to the strategy factors for each respondent group (This was to answer the research objective 7).

5.2 CORRELATIONAL ANALYSIS FOR THE FACTORS

In this section 5.2, the Pearson product-moment correlation analysis was conducted to determine the linear relationship between the individual employee, organisational, ICT systems and strategy factors for each respondent group (the tellers and customer care consultants as the first group and the line managers as the second group). This was necessary to answer the research objective 3 and to test the alternative research hypothesis that there were linear relationships between the individual employee, organisational, ICT systems and strategy factors for each respondent group. The Spearman correlation coefficient was used with the statements since the data was ordinal. The Pearson product-moment correlation coefficients were used to identify the direction and evaluate the strength and statistical significance of the relationship between the variables tested. As suggested by Triola (2017) and Mayers (2013), a significance level of $p \leq .05$ (i.e. p denotes sig. (2-tailed)) and a practical effect size of $r \geq .30$ (i.e. r represents the correlation coefficient) were used in this study.

5.2.1 Correlations between statements on status of the ICT knowledge and skills and factors among the line managers

A correlation was conducted to evaluate the strength and statistical significance of the relationships among the statements on the status of the ICT knowledge and skills and the individual employee, organisational and ICT systems based factors among the line managers (group 2). The statements on the status of the ICT knowledge and skills on Table 5.1 were labelled as F.8.1, F.8.2, F.8.3, F.8.4 and F.8.5, respectively and they were, namely *I am able to contribute to the planning of banking ICT systems, I am able to implement the banking ICT systems plans, I am able to assess the performance of the banking ICT systems, I have a working experience with similar systems, and I have an educational background knowledge in banking ICT systems.*

As noted in Table 5.1, most of the factors correlated positively ranging from r ≥.240 (p≤ .05) to r ≤ .480 (p≤ .01). These coefficients indicate a small to medium practical effect between the factors.

Table 5.1: Correlations between each statement of the status of the ICT knowledge and skills and each factor.

Statements versus Factors	Spearman's rho														
	F.8.1			F.8.2			F.8.3			F.8.4			F.8 .5		
	Correlation Coefficient	Sig. (2-tailed)	N	Correlation Coefficient	Sig. (2-tailed)	N	Correlation Coefficient	Sig. (2-tailed)	N	Correlation Coefficient	Sig. (2-tailed)	N	Correlation Coefficient	Sig. (2-tailed)	N
Motivation	-0.029	0.812	68	0.156	0.205	68	0.017	0.888	68	0.018	0.887	68	-0.043	0.73	68
Self-efficacy	-0.123	0.319	68	0.056	0.65	68	-0.021	0.862	68	-0.019	0.876	68	0.036	0.772	68
Time management	0.034	0.784	68	0.091	0.458	68	0.128	0.297	68	0.22	0.072	68	0.214	0.08	68
Attitude	-0.06	0.627	68	-0.001	0.996	68	-0.066	0.593	68	0.038	0.761	68	0.079	0.521	68
Quality of information	0.148	0.228	68	.267*	0.028	68	0.194	0.113	68	0.189	0.124	68	0.236	0.053	68
Quality of ICT	0.125	0.312	67	.319**	0.009	67	0.037	0.767	67	0.084	0.5	67	0.067	0.59	67
Ease of use	.299*	0.013	68	.406**	0.001	68	.307*	0.011	68	.391**	0.001	68	.358**	0.003	68
Language used	.304*	0.012	68	.405**	0.001	68	.332**	0.006	68	.413**	0	68	.348**	0.004	68
Graphics	0.203	0.099	67	.431**	0	67	.292*	0.016	67	.258*	0.035	67	.321**	0.008	67
Computer anxiety	0.132	0.284	68	0.079	0.523	68	.300*	0.013	68	0.159	0.196	68	.261*	0.032	68
Learning culture	0.223	0.067	68	.379**	0.001	68	.321**	0.008	68	.327**	0.007	68	.310**	0.01	68
Social support	0.101	0.414	68	0.218	0.074	68	.241*	0.047	68	.282*	0.02	68	.265*	0.029	68
Reward and recognition	.252*	0.038	68	.291*	0.016	68	.277*	0.022	68	.274*	0.024	68	0.206	0.092	68
Expected job characteristics	0.203	0.096	68	.454**	0	68	0.202	0.098	68	.355**	0.003	68	.285*	0.019	68
Freedom to be innovative	0.013	0.916	67	0.162	0.191	67	0.18	0.145	67	0.132	0.286	67	-0.027	0.828	67
Job enhancement	0.228	0.061	68	.382**	0.001	68	0.133	0.279	68	0.096	0.438	68	0.055	0.654	68
Specific learning goals	0.172	0.161	68	.381**	0.001	68	0.114	0.354	68	0.099	0.422	68	0.095	0.44	68
Appropriate organisational security management	-0.053	0.672	67	0.091	0.464	67	-0.11	0.377	67	-0.051	0.684	67	-0.19	0.123	67
Personal insecurity	0.185	0.131	68	0.106	0.392	68	.241*	0.047	68	0.123	0.318	68	0.038	0.761	68

As shown in the Table 5.1, several significant relationships (at the 5% level of significance and the correlation coefficient r>0.2) were found among the statements and the factors. Such relationships were discussed as follows:

Statement F.8.1, ‘I am able to contribute to the planning of banking ICT systems’ showed significant positive relationships with the following variables: an ease of use (r=.299, p=.013); rewards and recognition (r=.252, p=.038) indicated a small practical effect size of the correlation coefficients, while the language used (r=.304, medium practical effect size, p=.012) showed a medium practical effect size of the correlation coefficients.

Statement F.8.2, ‘I am able to implement the banking ICT systems plans’ showed positive relationships with the following variables: quality of information (r=.267, p=.028), and reward and recognition (r=.291, p=.016) had the small practical effect sizes of the correlation coefficients. The quality of ICT systems (r=.319, p=.009); ease of use (r=.406, p=.001); language (r=.405, p=.001); graphics (r=.431, p=.000); learning culture (r=.379, p=.001); expected job characteristics (r=.454, p=0.000); job enhancement (r=.382, p = 0.001) and specific learning goals (r=.381, p= 0.001) had the medium practical effect sizes of the correlation coefficients.

Statement F.8.3, ‘I am able to assess the performance of the banking ICT systems’ showed significant positive associations with the following variables: graphics (r=.292, p=0.016); social support (r=.241, p=0.047); and reward and recognition (r=.277, p=0.022) had the small practical effect sizes of the correlation coefficients. The ease of use (r=.307, p=.011); language (r=.332, p=.006); learning culture (r=.321, p=.008); and computer anxiety (r=.300, p=0.013) had the medium practical effect sizes of the correlation coefficients.

Statement F.8.4, ‘I have a working experience with similar systems’ showed significant positive associations with the following variables: graphics (r=.258, p=0.035); social support (r=.282, p=0.035); and reward and recognition (r=.274, p=0.024) had the small practical effect sizes of the correlation coefficients. The ease of use (r=.391, p=.001);

language (r=.413, p=.000); learning culture (r=.327, p=.007); and expected job characteristics (r=.355, p=0.003) had the medium practical effect sizes of the correlation coefficients.

Statement F.8.5, 'I have educational background knowledge in banking ICT systems' showed significant positive associations with the following variables: the computer anxiety (r=.261, p=0.032); the social support (r=.265, p=.029); and the expected job characteristics (r=.285, p=.019) indicated the small practical effect sizes of the correlation. While, the ease of use (r=.358, p=0.003); language (r=.348, p=0.004); graphics (r=.321, p=0.008) and learning culture (r=.310, p = 0.010) showed the medium practical effect sizes of the correlation coefficients.

Table 5.2 shows the highest and lowest correlations with regard to how the respondents perceive their knowledge and skills in ICT systems.

Table 5.2: Highest and lowest correlations on the variables with regard to the status on the ICT systems' knowledge and skills among the line managers.

Variable	Highest association	Lowest association
Able to contribute to the planning of banking ICT systems.	Language used (r=.304; p=.012)	Reward and recognition (r=.252; p=.038)
Able to implement the banking ICT systems plans	Expected job characteristics (r=.454; p=.000)	Quality of information (r=.267; p=.028)
Able to assess the performance of the banking ICT systems	Language used (r=.332; p=.006)	Social support (r=.241; p=.047)
Have a working experience with similar systems.	Language used (r=.413; p=.000)	Graphics (r=.258; p=.035)
Have educational background knowledge in banking ICT systems	Ease of use (r=.358; p=.003)	Computer anxiety (r=.261; p=.032)

5.2.3 Correlations between individual employee, organisational and ICT systems based factors

The Tables 5.3 and 5.4 show the correlations for the tellers and customer care consultants and the correlations for the line managers, respectively.

Table 5.3: Correlations among the factors for the tellers and customer care consultants.

Correlations for the T&CCC		Motivation	Self-efficacy	Attitude	Quality of information	Quality of ICT systems	Ease of Use	Language used	Graphics	Computer anxiety	Learning culture	Social Support	Reward and recognition
Motivation	Pearson Correlation	1	.503**	.604**	.613**	.490**	.505**	.460**	.370**	.209**	.340**	.501**	.365**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.007	.000	.000	.000
	N	166	166	166	166	166	166	165	166	166	166	166	165
Self-efficacy	Pearson Correlation	.503**	1	.561**	.450**	.385**	.431**	.387**	.380**	.087	.322**	.464**	.345**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.259	.000	.000	.000
	N	166	169	169	169	169	169	167	169	169	169	168	168
Attitude	Pearson Correlation	.604**	.561**	1	.659**	.551**	.524**	.551**	.436**	.119	.405**	.519**	.402**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000	.124	.000	.000	.000
	N	166	169	169	169	169	169	167	169	169	169	168	168
Quality of information	Pearson Correlation	.613**	.450**	.659**	1	.795**	.766**	.701**	.520**	.272**	.458**	.558**	.485**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	166	169	169	169	169	169	167	169	169	169	168	168
Quality of ICT systems	Pearson Correlation	.490**	.385**	.551**	.795**	1	.768**	.682**	.526**	.255**	.397**	.457**	.349**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.001	.000	.000	.000
	N	166	169	169	169	169	169	167	169	169	169	168	168

Ease of Use	Pearson Correlation	.505**	.431**	.524**	.766**	.768**	1	.722**	.574**	.242**	.416**	.439**	.272**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.002	.000	.000	.000
	N	166	169	169	169	169	169	167	169	169	169	168	168
Language used	Pearson Correlation	.460**	.387**	.551**	.701**	.682**	.722**	1	.620**	.200**	.492**	.499**	.411**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.010	.000	.000	.000
	N	165	167	167	167	167	167	167	167	167	167	167	166
Graphics	Pearson Correlation	.370**	.380**	.436**	.520**	.526**	.574**	.620**	1	.382**	.496**	.490**	.485**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	N	166	169	169	169	169	169	167	169	169	169	168	168
Computer anxiety	Pearson Correlation	.209**	.087	.119	.272**	.255**	.242**	.200**	.382**	1	.400**	.336**	.363**
	Sig. (2-tailed)	.007	.259	.124	.000	.001	.002	.010	.000		.000	.000	.000
	N	166	169	169	169	169	169	167	169	169	169	168	168
Learning culture	Pearson Correlation	.340**	.322**	.405**	.458**	.397**	.416**	.492**	.496**	.400**	1	.476**	.422**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000
	N	166	169	169	169	169	169	167	169	169	169	168	168
Social Support	Pearson Correlation	.501**	.464**	.519**	.558**	.457**	.439**	.499**	.490**	.336**	.476**	1	.657**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	N	166	168	168	168	168	168	167	168	168	168	168	167
Reward and recognition	Pearson Correlation	.365**	.345**	.402**	.485**	.349**	.272**	.411**	.485**	.363**	.422**	.657**	1

	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	165	168	168	168	168	168	166	168	168	168	167	168

Note:
**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed)
Correlation values ≤ .29 are practically significant (small effect). Correlation value ≥ .30 ≤ .49 are practically significant (medium effect). Correlation values ≥ .50 are practically significant (large effect).

Table 5.4: Correlations among the factors for the line managers.

Correlations for the LM		Motivation	Self-efficacy	Attitude	Quality of information	Quality of ICT systems	Ease of Use	Language used	Graphics	Computer anxiety	Learning culture	Social Support	Reward and recognition
Motivation	Pearson Correlation	1	.545**	.435**	.652**	.682**	.520**	.445**	.431**	.247*	.379**	.495**	.234
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.042	.001	.000	.055
	N	68	68	68	68	67	68	68	67	68	68	68	68
Self-efficacy	Pearson Correlation	.545**	1	.685**	.481**	.475**	.445**	.455**	.384**	.291*	.422**	.520**	.309*
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.001	.016	.000	.000	.010
	N	68	68	68	68	67	68	68	67	68	68	68	68
Attitude	Pearson Correlation	.435**	.685**	1	.376**	.369**	.250*	.287*	.369**	.298*	.218	.451**	.226
	Sig. (2-tailed)	.000	.000		.002	.002	.040	.018	.002	.014	.074	.000	.064
	N	68	68	68	68	67	68	68	67	68	68	68	68

Quality of information	Pearson Correlation	.652**	.481**	.376**	1	.812**	.714**	.580**	.660**	.395**	.555**	.564**	.558**
	Sig. (2-tailed)	.000	.000	.002		.000	.000	.000	.000	.001	.000	.000	.000
	N	68	68	68	68	67	68	68	67	68	68	68	68
Quality of ICT systems	Pearson Correlation	.682**	.475**	.369**	.812**	1	.727**	.480**	.637**	.194	.500**	.375**	.358**
	Sig. (2-tailed)	.000	.000	.002	.000		.000	.000	.000	.115	.000	.002	.003
	N	67	67	67	67	67	67	67	66	67	67	67	67
Ease of Use	Pearson Correlation	.520**	.445**	.250*	.714**	.727**	1	.663**	.566**	.323**	.682**	.500**	.502**
	Sig. (2-tailed)	.000	.000	.040	.000	.000		.000	.000	.007	.000	.000	.000
	N	68	68	68	68	67	68	68	67	68	68	68	68
Language used	Pearson Correlation	.445**	.455**	.287*	.580**	.480**	.663**	1	.451**	.247*	.602**	.540**	.390**
	Sig. (2-tailed)	.000	.000	.018	.000	.000	.000		.000	.042	.000	.000	.001
	N	68	68	68	68	67	68	68	67	68	68	68	68
Graphics	Pearson Correlation	.431**	.384**	.369**	.660**	.637**	.566**	.451**	1	.342**	.636**	.415**	.549**
	Sig. (2-tailed)	.000	.001	.002	.000	.000	.000	.000		.005	.000	.000	.000
	N	67	67	67	67	66	67	67	67	67	67	67	67
Computer anxiety	Pearson Correlation	.247*	.291*	.298*	.395**	.194	.323**	.247*	.342**	1	.345**	.310*	.347**

	Sig. (2-tailed)	.042	.016	.014	.001	.115	.007	.042	.005		.004	.010	.004
	N	68	68	68	68	67	68	68	67	68	68	68	68
Learning culture	Pearson Correlation	.379**	.422**	.218	.555**	.500**	.682**	.602**	.636**	.345**	1	.630**	.674**
	Sig. (2-tailed)	.001	.000	.074	.000	.000	.000	.000	.000	.004		.000	.000
	N	68	68	68	68	67	68	68	67	68	68	68	68
Social Support	Pearson Correlation	.495**	.520**	.451**	.564**	.375**	.500**	.540**	.415**	.310*	.630**	1	.642**
	Sig. (2-tailed)	.000	.000	.000	.000	.002	.000	.000	.000	.010	.000		.000
	N	68	68	68	68	67	68	68	67	68	68	68	68
Reward and recognition	Pearson Correlation	.234	.309*	.226	.558**	.358**	.502**	.390**	.549**	.347**	.674**	.642**	1
	Sig. (2-tailed)	.055	.010	.064	.000	.003	.000	.001	.000	.004	.000	.000	
	N	68	68	68	68	67	68	68	67	68	68	68	68

Note:
**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed)
Correlation values ≤ .29 are practically significant (small effect). Correlation value ≥ .30 ≤ .49 are practically significant (medium effect). Correlation values ≥ .50 are practically significant (large effect).

As noted in Tables 5.3 and 5.4 the significant associations ranged between r ≥ .200 (p ≤ .05) and r ≤ .795 (*p* ≤ .001) for the tellers and customer care consultants (group 1). In the line managers group (group 2), the significant associations ranged between r ≥ .247 (p ≤ .05) and r ≤ .812 (*p* ≤ .001).

The relationships between the factors in the Table 5.3 and Table 5.4 show that the associations were all positive and significant with the strength of the correlation shown by the coefficients. In Table 5.3 (for the tellers and customer care consultants), 23 of the Pearson product-moment coefficients were ≥.50 thus being practically significant (large effect). 35 of the Pearson product-moment coefficients were ≥.30 thus being practically significant (medium effect). The remaining 6 of the Pearson product-moment coefficients were ≤.29 thus being practically significant (small effect). In Table 5.4 (for line managers), 26 of the Pearson product-moment coefficients were ≥.50 thus being practically significant (large effect). 30 of the Pearson product-moment coefficients were ≥.30 thus being practically significant (medium effect). The remaining 6 of the Pearson product-moment coefficients were ≤.29 thus being practically significant (small effect). Therefore it can be anticipated that multicollinearity (i.e. the existence of high linear correlations between two or more predictor variables, in which one predictor variable could be used to predict the other) would not pose a problem. This is because a majority of the Pearson product-moment coefficients in both Table 5.3 and Table 5.4 showed a small to medium practical effect, and this is well below the level of concern for multicollinearity ($r \geq .80$) to be present (Field 2013).

Tables 5.3 and 5.4 showed that the quality of information provided by the adopted banking ICT systems had significant positive associations with almost all the other factors. In the questionnaire for the tellers and customer care consultants, the quality of information had the strongest associations with the quality of the ICT systems (r=.795, large practical effect, p=.001) followed by the ease of use (r=.766, large practical effect, p=.001) and language (r=.701 large practical effect, p=.001). The weakest association was with the computer anxiety at (r=.272 the small practical effect, p=.001). In the questionnaire for the line managers, the quality of information had the strongest associations with the quality of ICT systems (r=.812; large practical effect p=.001) followed by the ease of use (r=.714; large practical effect, p=.001) and graphics (r=.660; large practical effect, p=.001). The weakest association was with attitude (r=.376; medium practical effect, p=.001).

On the other hand the two Tables 5.3 and 5.4 showed that computer anxiety had the weakest associations with almost all the other factors. In questionnaire for the tellers and customer care consultants, the strongest associations were with the learning culture (r=.400; medium practical effect, p=.001) followed by graphics (r=.382; medium practical effect, p=.000) and reward and recognition (r=.363; medium practical effect, p=.000). The weakest association was with the language used (r=.200; small practical effect, p=.010). In the questionnaire for the line managers, computer anxiety had the strongest associations with quality of information (r=.395; medium practical effect, p=.000) followed by reward and recognition (r=.347; medium practical effect, p=.004) and learning culture (r=.345; medium practical effect, p=.004). It had its weakest association with motivation (r=.247; a small practical effect, p=.042) and language (r=.247, a small practical effect, p=.042).

5.2.3 Correlations on the strategy factors and the individual employee, organisational and ICT systems based factors

The Table 5.5 presents the correlation on strategy factors for the tellers and customer care consultants.

Table 5.5: Correlations between each of the strategy factors and other factors for the tellers and customer care consultants.

Correlations on Factors	***Directive learning strategies***			***Supportive learning strategies***		
	Pearson Correlation	Sig. (2-tailed)	N	Pearson Correlation	Sig. (2-tailed)	N
Directive learning strategies	1		169	.770**	0.000	169
Supportive learning strategies	.770**	0.000	169	1		169
Motivation	.347**	0.000	166	.352**	0.000	166
Self-efficacy	.244**	0.001	169	.288**	0.000	169
Attitude	.421**	0.000	169	.448**	0.000	169
Quality of information	.317**	0.000	169	.389**	0.000	169
Quality of ICT systems	.222**	0.004	169	.292**	0.000	169
Ease of Use	.209**	0.007	169	.269**	0.000	169
Usefulness	.367**	0.000	169	.420**	0.000	169

Language used	.211**	0.006	167	.241**	0.002	167
Graphics	.169*	0.028	169	.170*	0.027	169
Computer anxiety	0.055	0.476	169	0.009	0.906	169
Learning culture	0.092	0.234	169	0.045	0.560	169
Social support	.287**	0.000	168	.272**	0.000	168
Reward and recognition	.349**	0.000	168	.335**	0.000	168
Job characteristics	0.125	0.104	169	0.137	0.075	169
Individual time management	.306**	0.000	169	.334**	0.000	169
Organisational time management	0.147	0.057	169	0.106	0.168	169
Appropriate organisational security management	.292**	0.000	169	.296**	0.000	169
Personal insecurity	0.079	0.306	169	-0.020	0.798	169

Note:

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

The Table 5.6 shows the correlations on the strategy factors for the line managers.

Table 5.6: The correlations on the strategy factors for the line managers.

Correlations on Factors	***Directive learning strategies***			***Directive learning strategies***		
	Pearson Correlation	Sig. (2-tailed)	N	Pearson Correlation	Sig. (2-tailed)	N
Directive learning strategies	1		68	.567**	0.000	68
Supportive learning strategies	.567**	0.000	68	1		68
Motivation	0.003	0.982	68	0.007	0.953	68
Self-efficacy	0.051	0.681	68	0.010	0.934	68
Time management	0.096	0.436	68	.259*	0.033	68
Attitude	0.104	0.401	68	0.148	0.228	68
Quality of information	0.110	0.374	68	0.111	0.366	68
Quality of ICT systems	0.089	0.476	67	0.166	0.179	67
Ease of Use	0.065	0.597	68	-0.075	0.546	68
Language used	0.068	0.583	68	0.082	0.508	68
Graphics	0.051	0.683	67	0.230	0.062	67

Computer anxiety	-0.007	0.952	68	-0.006	0.962	68
Learning	0.161	0.189	68	-0.075	0.545	68
Social support	.358**	0.003	68	0.023	0.853	68
Reward recognition	.370**	0.002	68	0.062	0.616	68
Expected job characteristics	.268*	0.027	68	0.190	0.120	68
Freedom to be innovative	.396**	0.001	67	.463**	0.000	67
Job enhancement	0.193	0.116	68	-0.015	0.905	68
Specific learning goals	0.134	0.276	68	.595**	0.000	68
Appropriate organisational security management	0.177	0.152	67	0.146	0.237	67
Personal insecurity	0.072	0.561	68	0.059	0.635	68

Note:

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

5.2.4 Summary of the highest and lowest coefficients

The Table 5.7 gives a summary of the highest and lowest correlation coefficients.

Table 5.7: Summary of the highest and lowest correlation coefficients in the two questionnaires.

Questionnaire for tellers and customer care consultants (group 1)				***Questionnaire for the line managers (group 2)***	
Factors	**Highest coefficient**	**Lowest coefficient**		**Highest coefficient**	**Lowest coefficient**
Motivation	.613; Quality of information	.209; computer anxiety		.682; quality of ICT systems	.247; Computer anxiety
Self-efficacy	.561; Attitude	.087; computer anxiety		.685; attitude	.291; computer anxiety
Attitude	.659;	.402;		.685;	.250;

	quality of information	Reward and recognition		self-efficacy	Ease of use
Quality of information	.795; quality of ICT systems	.272; computer anxiety		.812; quality of ICT systems	.376;attitude
Quality of ICT systems	.795; quality of information	.255; computer anxiety		.812; quality of ICT systems	.358; Reward and recognition
Ease of use	.768; quality of ICT systems	.242; computer anxiety		.727; quality of ICT systems	.250;attitude
Language used	.722; ease of use	.200; computer anxiety		.663; ease of use	.247; computer anxiety
Graphics	.620; Language	.370; Motivation		.660; quality of information	.342; computer anxiety
Computer anxiety	.400; learning culture	.200; language		.395; quality of information	.247; Motivation and language
Learning culture	.496; Graphics	.322; self-efficacy		.682; ease of use	.345; Computer anxiety
Social support	.657; Rewards	.336; computer anxiety		.630; learning culture	.310; computer anxiety
Reward and recognition	.657; social support	.272; ease of use		674; learning culture	.309; Self-efficacy

The results depicted in the Table 5.7 determined the relationship between the individual employee, organisational and ICT system based factors for each respondent group (the tellers and customer care consultants as one group and the line managers as the second group). Thus answers the research objective 3. The results in Table 5.7 also tested the hypothesis **Ha1:** *There are linear relationships between the individual employee, organisational, ICT systems and strategy based factors for each respondent group*.

5.3 STATISTICAL SIGNIFICANT DIFFERENCES BETWEEN RESPONDENTS WITH REGARD TO THEIR LEVEL OF AGREEMENTS

In this section 5.3, results of tests on the statistical significant differences between the two respondent groups regarding their level of agreement on the individual employee, organisational and ICT systems based factors that affect learning have been reported. Section 5.3 also reports on the results of tests for the statistical significant differences between the two respondent groups regarding their level of agreement on the strategy factors that can optimally address the factors that support learning. The independent samples tests were conducted for only twelve (12) factors, namely the motivation, self-efficacy, attitude, quality of information, quality of ICT systems, ease of use, language used, graphics, computer anxiety, learning culture, social support and reward and recognition. This was because the remaining factors such as the time management, usefulness, perceived security, job characteristics and strategies either split in one or both respondent groups. The factors which split for one respondent group only had their component loaded into different factors in the same respondent group, while the factors that split in both respondent groups had their components loaded differently in the two respondent groups. Therefore, results of tests on the statistical significant differences between the two respondent groups regarding their level of agreement on the individual employee, organisational and ICT systems based factors that affect learning were not reported for the factors that split. The factors included: the individual time management, organisational time management, perceived job enhancement, specific learning goals, appropriate organisational security management, personal insecurity, expected job characteristics and freedom to be innovative.

Similarly, results of tests on the statistical significant differences between the two respondent groups regarding their level of agreement on each of the strategy factors that can optimally address the factors that support learning of the adopted banking ICT systems before undergoing training were not done. This is because the strategy factors also split and loaded differently between the two groups and hence could not be

compared. The identified strategy factors were named supportive learning strategies and the directive learning strategies.

The descriptive statistics for the individual employee, organisational and ICT systems based factors of the two respondent groups and the independent samples test results were reported in the Table 5.8.

Table 5.8: Descriptive statistics and independent samples test for the tellers and customer care consultants as group 1 and the line managers as group 2.

T&CCC (Group 1) and LM (Group 2): Factors		Levene's Test for Equality of Variances		T-test for Equality of means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean of group 1	Std.deviation of group 1	Mean of group 2	Std deviation of group 2
Motivation	Equal variances assumed	.060	.806	.021	232	.983	4.39	.50	4.39	.45
	Equal variances not assumed			.022	137.674	.983				
Self-efficacy	Equal variances assumed	1.458	.228	4.785	235	.000	4.44	.50	4.07	.64
	Equal variances not assumed			4.298	100.908	.000				
Attitude	Equal variances assumed	1.600	.207	2.324	235	.021	4.36	.50	4.18	.59
	Equal variances not assumed			2.167	107.789	.032				
Quality of information	Equal variances assumed	1.184	.278	-2.449	235	.015	4.20	.67	4.43	.55
	Equal variances not assumed			-2.663	149.671	.009				
Quality of ICT systems	Equal variances assumed	.037	.848	-2.438	234	.016	4.21	.64	4.42	.56
	Equal variances not assumed			-2.577	136.879	.011				
Ease of use	Equal variances assumed	.384	.536	-2.064	235	.040	4.17	.77	4.39	.65

	Equal variances not assumed			-2.223	146.325	.028				
Language used	Equal variances assumed	.579	.447	-1.204	233	.230	4.15	.81	4.29	.67
	Equal variances not assumed			-1.302	148.761	.195				
Graphics	Equal variances assumed	.067	.796	-1.751	234	.081	4.05	.81	4.25	.77
	Equal variances not assumed			-1.789	126.791	.076				
Computer anxiety	Equal variances assumed	1.194	.276	-.489	235	.625	2.76	1.29	2.84	1.16
	Equal variances not assumed			-.511	136.058	.610				
Learning culture	Equal variances assumed	6.524	.011	-3.031	235	.003	3.87	.79	4.20	.69
	Equal variances not assumed			-3.210	140.659	.002				
Social Support	Equal variances assumed	.015	.902	-.682	234	.496	4.22	.58	4.28	.56
	Equal variances not assumed			-.695	129.477	.488				
Reward and recognition	Equal variances assumed	2.742	.099	-.774	234	.440	4.15	.69	4.23	.57
	Equal variances not assumed			-.841	149.731	.402				

The Levene tests for equality of variances showed in the Table 5.8 that the equality of variances can be assumed ($p>0.05$) for all the factors except for the learning culture. In this case, the corresponding t value for equal variances not assumed was used.

5.3.1 Individual employee factors

Regarding the individual employee factors, the results of the independent samples tests displayed in Table 5.8 indicate that there were statistically significant differences, at the 5% level of significance between the two respondent groups (the tellers and customer care consultants (T&CCC) as group 1 and the line managers (LM) as group 2) with respect to the factors named the self-efficacy ($t=4.785$, $Df=235$, $p=.000$) and the attitude

(t=2.324, Df=235, p=0.021). No statistically significant difference between the two groups of respondents was found for the factor called motivation (t=0.021, Df =232, p=.983).

Table 5.8 indicates that the tellers and customer care consultants obtained a higher mean score (M=4.44; SD=.50) than the mean score (M= 4.07; SD=.64) from the line managers for the self-efficacy factor. The Table 5.1 also shows that the tellers and customer care consultants obtained a higher mean score (M=4.36; SD=.50) than the mean score (M=4.18; SD=.59) recorded from the line managers for the attitude factor.

These results on differences in the mean scores meant that the tellers and customer care consultants perceived themselves to have more self-efficacy (i.e. a stronger belief in their own capabilities) towards the learning of the banking ICT systems than how their line managers perceived them. These findings were supported by Bandura (1997), Kulviwat, Bruner and Neelankavil (2014), Komarraju and Dial (2014) and Alqurashi (2016) that employees working with a technology would tend to believe in their own capabilities. The results also demonstrated that the tellers and customer care consultants perceived themselves to have more positive attitude (i.e. a higher disposition) to learn the banking ICT systems than how their managers perceived them. These findings were confirmed by Holt and Bockett (2012), Benozzo and Colley (2012) and Al-Ajam and Nor (2015) that the employees who directly worked with the innovation would be inclined more towards learning the adopted innovation than employees who are not.

5.3.2 ICT systems factors

The results in Table 5.8 indicated that there were statistically significant differences, at the 5% level of significance, between the two respondent groups with respect to the factors named the quality of information (t= -2.449, Df=235, p=0.015), the quality of ICT systems (t=-2.438, Df=234, p=0.016) and the ease of use (t=-2.064, Df=235, p=0.040). No statistically significant difference between the two groups of respondents was found in the variables language used in the systems, graphics used in the ICT systems and computer anxiety.

The line managers obtained higher mean scores for: the quality of information (M=4.43; SD=.55); the quality of ICT systems (4.42; SD=.56) and the ease of use (M=4.39; SD=.65) as compared to the quality of information (M=4.20; SD=.67); the quality of ICT systems (4.21; SD=.64) and the ease of use (M=4.17; SD=.77) as scored by the tellers and customer care consultants.

These results implied that the line managers perceived the majority of their team of employees' (the tellers and customer care consultants) learning of the adopted banking ICT systems to be supported mainly by the quality of information, the quality of ICT systems and the ease of use factors. These findings agreed with the theory from the literature (Davis 1989; Bhuasiri *et al.* 2012; Vitanova *et al.* 2015; Rewashdeh 2015) that employees in the managerial positions who identified the ICT systems' learning needs of their subordinates would display stronger perception than their subordinates regarding the quality of information, the quality of ICT systems and the ease of use of such systems.

5.3.3 Organisational factors

There was a statistically significant difference, at the 5% level of significance, between the two respondent groups on the factor named the learning culture (t=-3.210, Df=140.659, p=.002). No statistically significant difference between the two groups of respondents was found in the factors named the social support and reward and recognition.

In this group of factors, the line managers had a higher mean score (M=4.20; SD=.69) than the mean score (M=3.87; SD=.79) obtained by the tellers and customer care consultants for the learning culture. This finding concurred with the definition of a learning culture in the literature (Williams 2008; Unwin 2011; Meyer 2017) as the managers' strategic learning interventions accorded to their team of employees (the tellers and customer care consultants). That is, the managers guide employees in defining their

learning objectives and creating learning opportunities and learning resources (Meyer 2017).

5.3.4 Strategy factors

As it has been reported in section 5.3, results of tests on the statistical significant differences between the two respondent groups regarding their level of agreement on each of the strategy factors that can optimally address the factors that support learning of the adopted banking ICT systems before undergoing training were not done. This was because the components of the two strategy factors loaded differently and hence could not be compared.

5.4 DIFFERENCES BETWEEN THE CATEGORIES DEFINED FOR EACH DEMOGRAPHIC VARIABLE

In section 5.4, the statistical significant differences between the categories defined for each demographic variable within each respondent group with respect to the individual employee, organisational, ICT systems and strategy factors have been provided. The section has addressed the research objectives 6 and 7 which were to empirically:

- investigate whether statistically significant differences exist between the categories defined for each demographic variable (gender, age, highest level of education, highest qualification in ICT, job position, employment status, experience with the banking ICT systems and the number of training programmes attended before) with regard to each of the individual employee, organisational and ICT systems based factors for each respondent group (the tellers and customer care consultants (T&CCC) as one group and the line managers (LM) as the second group). (Research objective 6). (**Ha4:** *There are statistically significant differences between the categories defined for each demographic variable with regard to each of the individual employee, organisational and ICT systems based factors for each respondent group*).

- investigate whether statistically significant differences exist between the categories defined for each demographic variable (gender, age, highest level of education, highest qualification in ICT, job position, employment status, experience with the banking ICT systems and the number of training programmes attended before) with regard to each of the strategy factors for each respondent group (the tellers and customer care consultants (T&CCC) as one group and the line managers (LM) as the second group). (Research objective 7). (**Ha5:** *There are statistically significant differences between the categories defined for each demographic variable with regard to each of the strategies factors for each respondent group*).

Each factor was tested individually for each respondent group. Nonparametric tests were used due to small group sizes.

The Mann-Whitney U test, applicable in the case of two groups, was used for the gender groups for the line managers' respondent group, while the Kruskal–Wallis test, applicable for the case of three or more groups, was used for the other demographic variables.

5.4.1 Testing for gender differences

The results of the independent samples t- test for the gender for the tellers and customer care consultants (group 1) are shown in Table 5.9. While that of the gender using the Mann-Whitney U test for the line managers (group 2) is shown in Table 5.10.

Table 5.9: Independent samples t-test for gender for the tellers and customer care consultants.

T&CCC (Group 1): Gender		Levene's Test for Equality of Variances		T-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean for males	Std deviation	Mean for females	Std deviation
Motivation	Equal variances assumed	.047	.828	.374	164	.709	4.40	.47	4.37	.53
	Equal variances not assumed			.371	152.292	.711				
Self-efficacy	Equal variances assumed	1.564	.213	1.779	167	.077	4.50	.44	4.37	.55
	Equal variances not assumed			1.747	146.114	.083				
Attitude	Equal variances assumed	1.416	.236	1.614	167	.108	4.41	.50	4.29	.50
	Equal variances not assumed			1.612	160.950	.109				
Quality of information	Equal variances assumed	.035	.853	.992	167	.323	4.25	.63	4.15	.71
	Equal variances not assumed			.982	153.973	.328				
Quality of ICT systems	Equal variances assumed	.119	.731	1.349	167	.179	4.27	.61	4.14	.67
	Equal variances not assumed			1.337	155.152	.183				
Ease of use	Equal variances assumed	.042	.839	1.370	167	.173	4.24	.74	4.08	.81
	Equal variances not assumed			1.358	155.408	.176				
Usefulness	Equal variances assumed	.005	.942	.330	167	.742	4.34	.59	4.31	.58
	Equal variances not assumed			.331	162.643	.741				
Language used	Equal variances assumed	.000	.990	1.770	165	.079	4.25	.80	4.03	.81
	Equal variances not assumed			1.768	160.321	.079				
Graphics	Equal variances assumed	.002	.968	1.626	167	.106	4.14	.79	3.94	.83
	Equal variances not assumed			1.619	158.466	.108				

Computer anxiety	Equal variances assumed	2.287	.132	.868	167	.387	2.83	1.34	2.66	1.21
	Equal variances not assumed			.876	165.982	.382				
Learning culture	Equal variances assumed	1.690	.195	2.924	167	.004	4.03	.74	3.68	.82
	Equal variances not assumed			2.896	154.277	.004				
Social support	Equal variances assumed	1.941	.165	1.162	166	.247	4.27	.60	4.16	.56
	Equal variances not assumed			1.168	164.279	.244				
Reward and Recognition	Equal variances assumed	2.444	.120	-.578	166	.564	4.13	.76	4.19	.59
	Equal variances not assumed			-.591	164.824	.556				
Job characteristics	Equal variances assumed	0.022	.883	.595	167	.553	3.82	0.89	3.73	0.91
	Equal variances not assumed			.594	160.782	.553				
Individual time management	Equal variances assumed	.941	.333	.981	167	.328	4.26	.65	4.15	.75
	Equal variances not assumed			.969	151.614	.330				
Organisational time management	Equal variances assumed	.108	.743	1.033	167	.303	3.70	.96	3.55	.90
	Equal variances not assumed			1.039	164.777	.300				
Appropriate organisational security management	Equal variances assumed	.514	.474	2.050	167	.042	4.40	.57	4.22	.55
	Equal variances not assumed			2.055	163.218	.041				
Personal	Equal variances assumed	.007	.933	.801	167	.424	3.50	1.37	3.33	1.36
Insecurity	Equal variances not assumed			.802	162.205	.424				
Supportive learning strategies	Equal variances assumed	.009	.926	-1.641	167	.103	4.35	.52	4.48	.52
	Equal variances not assumed			-1.641	161.861	.103				
Directive learning strategies	Equal variances assumed	.088	.767	-1.411	167	.160	4.43	.54	4.56	.58
	Equal variances not assumed			-1.402	157.295	.163				

The Levene tests for the assumption for equal variances showed that the equality of variances can be assumed ($p>0.05$) for all the factors.

The t-test results in the Table 5.9 indicated that there were statistically significant differences, at the 5% level of significance, between the male and female tellers and customer care consultants with respect to the learning culture ($p=.004$) and the appropriate organisational security management ($p=.042$). No statistically significant differences exist between the male and female tellers and customer care consultants with regard to the remaining factors as shown in Table 5.9.

As depicted in Table 5.9, the male tellers and customer care consultants had a higher mean score ($M=4.03$; $SD=.74$) than the mean scored ($M=3.68$; $SD=.82$) by their female counterparts on the learning culture. Similarly, the male tellers and customer care consultants had a higher mean score ($M=4.40$; $SD=.57$) than the mean scored ($M=4.22$; $SD=.55$) by their female colleagues on the appropriate organisational security management. These findings meant that more males than females perceived that in their organisation: there was continuous learning; they were guided to define their ICT learning objectives; they were allowed to make mistakes when learning the adopted ICT systems; there were a lot of opportunities that supported their learning of the adopted ICT systems; and they were provided with a variety of ICT learning programmes to bridge their ICT skills and knowledge gaps. The findings also implied that more male tellers and customer care consultants than their female colleagues, were afraid that transaction errors might occur when they used the adopted ICT systems and also that their job account could be hacked. Typically, culture describes male behaviour as aggressive, assertive and competitive, while female behaviour is described as collaborative and supportive (Coetzer 2016). Thus the results found were in agreement with the assertion made by Coetzer (2016).

Table 5.10: Statistical results of gender using the Mann-Whitney U test for the line managers.

LM (Group 2): Gender	Mann-Whitney U	Asymp. Sig. (2-tailed)	Mean ranks males (1)	Mean ranks females (2)
Motivation	479.500	0.725	33.92	35.70
Self-efficacy	473.000	0.662	35.22	33.00
Time management	476.000	0.693	35.15	33.14
Attitude	430.500	0.316	32.86	37.93
Quality of information	489.000	0.817	34.87	33.73
Quality of ICT systems	461.500	0.647	33.26	35.52
Ease of use	435.000	0.336	32.96	37.73
Job enhancement	426.000	0.266	32.76	38.14
Specific learning goals	435.500	0.327	32.97	37.70
Language	429.500	0.300	32.84	37.98
Graphics	401.000	0.253	32.22	37.90
Appropriate organisational security management	441.000	0.558	33.09	36.00
Personal insecurity	319.500	0.012	38.55	27.02
Computer anxiety	447.500	0.440	35.77	31.84
Learning culture	381.500	0.099	31.79	40.16
Social support	409.500	0.197	32.40	38.89
Reward and recognition	446.000	0.418	33.20	37.23
Expected job characteristics	407.000	0.166	32.35	39.00
Freedom to be innovative	377.000	0.100	31.38	39.36

Supportive learning strategies	329.500	0.017	30.66	42.52
Directive learning strategies	410.000	0.187	32.41	38.86

The Mann-Whitney test results in Table 5.10 indicated that there were statistically significant differences, at the 5% level of significance, between the male and female line managers with respect to the personal insecurity and the supportive learning strategies subscales tested. It was also found that there was no statistically significant difference, at the 5% level of significance, between the male and female line managers with respect to the rest of the subscales tested as shown on Table 5.10. Furthermore, male line managers tend to agree more that the personal insecurity factor affect the learning of the majority of their team of employees than female line managers, while female line managers tend to agree more that the supportive learning strategies factor affect the learning of the majority of their team of employees than male line managers.

To elaborate on the results above under the personal insecurity factor, the male line managers perceived that a majority of their team of employees were afraid that transactional errors may occur when they use the adopted ICT systems and also that a majority of their team of employees were afraid that their job account can be hacked. While for the supportive learning strategies, the female line managers agreed that their organisation should: offer mentorship programmes to motivate the employees to learn the adopted ICT systems; allow more learning time for the adopted ICT systems during work hours; promote the usefulness of the adopted ICT systems in order to create positive attitudes amongst employees; identify the employees learning needs when defining the organisation objectives; encourage both managerial and peer coaching for effective job performance; recognise and reward employees informal learning through a formal assessment and evaluation process; organise regular ICT training programmes to bridge the employees' knowledge and skills gaps in the adopted ICT systems; and ensure that the designs of ICT learning programmes incorporate learners competency and needs.

5.4.2 Testing for age group differences

The results of the Kruskal Wallis test on the age group differences for the tellers and customer care consultants are shown in Table 5.11.

Table 5.11: Kruskal Wallis test on age for the tellers and customer care consultants.

T&CCC(Group 1): Age	Chi-Square	Df	Asymp. Sig.	Mean ranks(18 to 30 years)	Mean ranks (31 to 40 years)	Mean ranks (41 t0 50 years)	Mean ranks (51 to 60 years)
Motivation	0.949	2	0.622	79.26	86.53	79.88	
Self-efficacy	0.250	2	0.882	85.87	82.10	83.00	
Individual time management	2.749	2	0.253	84.09	80.45	103.35	
Organisational time management	7.660	2	0.022	82.93	79.02	118.73	
Attitude	0.808	2	0.668	87.28	80.37	83.92	
Quality of information	1.943	2	0.379	79.29	87.12	95.85	
Quality of ICT systems	1.966	2	0.374	78.69	88.89	89.62	
Ease of use	2.731	2	0.255	80.25	84.68	103.54	
Usefulness	2.237	2	0.327	80.27	85.05	101.31	
Language used	1.959	2	0.375	79.01	84.84	97.38	
Graphics	6.802	2	0.033	79.35	83.45	116.08	
Appropriate organisational security management	1.609	2	0.447	79.31	88.01	90.69	
Personal insecurity	4.245	2	0.120	88.09	76.36	101.38	
Computer anxiety	9.033	2	0.011	87.59	74.37	115.69	
Learning culture	8.451	2	0.015	80.83	80.90	121.19	
Social support	4.927	2	0.085	76.11	88.31	102.92	
Reward and recognition	0.910	2	0.634	82.43	82.53	95.5	
Job characteristics	6.677	2	0.035	77.55	85.80	114.08	
Supportive learning strategies	2.687	3	0.442	83.53	87.39	88.73	33.00
Directive learning strategies	.876	3	0.831	83.60	84.97	95.69	73.50

The Kruskal Wallis results in Table 5.11 indicated that there were statistically significant differences, at the 5% level of significances, between the different age categories of the tellers and customer care consultants with respect to the organisational time

management (p=.022), the graphics (p=.033), the computer anxiety (p=0.011), the learning culture (p=.015) and the job characteristics (p=.035) factors. No statistically significant differences exist between the different age categories of the tellers and customer care consultants with regard to the remaining factors shown in Table 5.11.

As illustrated in Table 5.11, the tellers and customer care consultants between 41 and 50 years of age had higher mean ranks than those in the other age groups on the following factors: the organisational time management (mean rank = 118.73), the graphics (mean rank =116.08), the computer anxiety (mean rank =115.69), the learning culture (mean rank =121.19) and the job characteristics (mean rank = 114.08) which indicate that they tend to agree more on the items related to these factors than the younger (less than 41 years) age groups.

This finding was supported by Coetzer (2016) and Cowman and McCarthy (2016), who found that age affects the learning at the workplace. The younger employees perceived organisational factors and work environment to support their learning as compared to the older employee age groups.

The results of the Kruskal Wallis test on the age group differences for the line managers are shown in Table 5.12.

Table 5.12: Kruskal Wallis test on age for the line managers.

LM (Group 2): Age	**Chi-Square**	**Df**	**Asymp. Sig.**	**Mean ranks(18 to 30 years)**	**Mean ranks (31 to 40years)**	**Mean ranks (41 t0 50years)**
Motivation	0.739	2	0.691	27.50	32.32	34.28
Self-efficacy	0.364	2	0.834	30.57	31.68	34.30
Time management	0.357	2	0.835	33.57	33.53	30.65
Attitude	0.993	2	0.609	38.93	31.34	32.26
Quality of information	0.577	2	0.749	28.14	32.38	34.00
Quality of ICT systems	3.221	2	0.200	30.50	28.76	37.48

Ease of use	2.105	2	0.349	26.07	31.24	36.33
Job enhancement	2.589	2	0.274	22.43	33.68	33.83
Specific learning goals	0.126	2	0.939	34.57	32.00	32.61
Language used	2.104	2	0.349	23.71	34.50	32.22
Graphics	1.922	2	0.383	22.58	33.46	32.30
Appropriate organisational security management	3.370	2	0.185	40.25	28.44	35.11
Personal insecurity	0.371	2	0.831	36.43	32.15	31,83
Computer anxiety	0.113	2	0.945	34.71	32.18	32.3
Learning culture	3.842	2	0.146	21.43	35.87	30.89
Social support	2.038	2	0.361	25.07	35.12	30.89
Reward and recognition	1.325	2	0.516	26.21	34.49	31.48
Expected job characteristics	2.553	2	0.279	27.36	35.74	29.28
Freedom to be innovative	0.524	2	0.770	31.57	30.64	34.09
Supportive learning strategies	0.707	2	0.702	27.14	33.43	32.76
Directive learning strategies	0.248	2	0.883	30.93	33.53	31.46

The Kruskal Wallis test results indicated that no statistical significant difference exists, at the 5% level of significance, between the different age categories of the line managers with respect to all the factors tested in Table 5.12.

5.4.3 Testing for differences in the levels of education

The results of the Kruskal Wallis test on the level of education for the tellers and customer care consultants are shown in Table 5.13, while that for the line managers are illustrated in the Table 5.14.

Table 5.13: Kruskal Wallis test on the level of education for the tellers and customer care consultants.

T&CCC (Group 1): Level of education	Chi-Square	df	Asymp. Sig.	Mean rank (KCSE)	Mean rank (diploma)	Mean rank (bachelor's degree)	Mean rank (master's degree)
Motivation	1.332	2	0.514		66.17	80.6	85.59
Self-efficacy	2.596	2	0.273		60.17	82.42	87.76
Individual time management	.172	2	0.918		82.22	81.36	85.06
Organisational time management	6.415	2	0.040		111.83	84.47	70.24
Attitude	0.623	2	0.732		71.89	82.30	85.45
Quality of information	0.106	2	0.948		86.17	81.81	83.65
Quality of ICT systems	1.000	2	0.607		84.56	80.19	88.68
Ease of use	0.429	2	0.807		90.94	82.76	79.85
Usefulness	.175	2	0.916		77.94	82.12	84.63
Language used	0.156	2	0.925		76.72	82.27	80.39
Graphics	8.419	2	0.015		113.33	85.21	67.78
Appropriate organisational security management	.889	2	0.641		69.11	82.65	85.08
Personal insecurity	12.388	2	0.002		108.67	87.73	61.56
Computer anxiety	17.937	2	0.000		112.78	89.11	56.68
Learning culture	4.110	2	0.128		108.72	83.40	74.03
Social support	0.776	2	0.678		86.78	79.90	86.91
Reward and recognition	0.457	2	0.796		73.00	83.22	80.54
Job characteristics	2.113	2	0.348		94.61	84.51	73.99
Supportive learning strategies	3.587	3	0.310	63.63	74.44	82.17	95.54
Directive learning strategies	4.679	3	0.197	68.25	80.94	80.67	97.93

The Kruskal Wallis test results in Table 5.13 indicated that there were statistically significant differences, at the 5% level of significance, between the different levels of education among the tellers and customer care consultants with respect to the organisational time management (p=.040), the graphics (p=.015) and the computer anxiety (p=.000) factors. No statistically significant differences exist between the different levels of education among the tellers and customer care consultants with regard to the remaining factors shown in Table 5.13.

The tellers and customer care consultants with diploma had significantly higher mean ranks in the organisational time management (mean rank = 111.83), the graphics (mean rank =113.33) and the computer anxiety (mean rank =112.78) factors than their counterparts with their highest levels of education as bachelors, masters and doctoral degrees. This indicates that the tellers and customer care consultants with diploma as their highest level of education tend to agree more regarding these factors. This implied that the tellers and customer care consultants with diploma as their highest level of education: take plenty of time to learn the adopted ICT systems; have sufficient time to learn the adopted ICT systems and use time on the job created by their organisation to learn the adopted ICT systems. They also perceived that the adopted ICT systems: have relevant diagrams; have quality pictures; use colour to highlight key points for easier reading; avoid the use of complex graphics and balance the amount of texts with the graphics. In addition, they perceived that working with computers makes them: nervous; uncomfortable; worried whether they will succeed to learn the adopted ICT systems; scared and they have basic knowledge and skills in ICT.

These findings were supported by Coetzer (2016), who found that employees with tertiary qualifications viewed their work environment and their immediate supervisors' level proximate support for learning less favourably.

Table 5.14: Kruskal Wallis test on the level of education for the line managers.

LM (Group 2): Level of education	**Chi-Square**	**Df**	**Asymp. Sig.**	**Mean rank (diploma)**	**Mean rank (bachelor's degree)**	**Mean rank (master's degree)**
Motivation	0.870	2	0.647	30.18	35.33	31.56
Self-efficacy	1.902	2	0.386	40.41	32.80	30.59
Time management	0.469	2	0.791	33.45	32.33	36.15
Attitude	2.234	2	0.327	41.05	32.63	30.56
Quality of information	0.453	2	0.797	31.73	32.89	36.00
Quality of ICT systems	0.078	2	0.962	34.36	32.59	33.00

Ease of use	1.564	2	0.458	27.14	34.68	34.97
Job enhancement	1.161	2	0.560	28.14	34.57	34.59
Specific learning goals	.315	2	0.854	35.50	33.47	31.68
Language	0.765	2	0.682	31.00	32.79	36.71
Graphics	2.326	2	0.313	32.50	30.64	38.94
Appropriate organisational security management	1.271	2	0.530	35.73	34.04	28.66
Personal insecurity	5.274	2	0.072	21.73	36.29	34.88
Computer anxiety	5.970	2	0.051	20.73	35.71	36.82
Learning culture	4.437	2	0.109	30.82	30.54	41.85
Social support	4.805	2	0.090	34.64	29.57	41.56
Reward and recognition	5.941	2	0.051	28.91	30.62	42.91
Expected job characteristics	.281	2	0.869	35.09	32.50	34.71
Freedom to be innovative	.874	2	0.646	29.73	32.57	36.06
Supportive learning strategies	1.374	2	0.503	37.36	31.22	36.09
Directive learning strategies	1.013	2	0.603	38.50	32.24	33.09

The results of the Kruskal Wallis indicated that no statistically significant difference exists at the 5% level of significance, between the different levels of education amongst the line managers (LM) with respect to all the factors tested in Table 5.14.

5.4.4 Testing for differences in the levels of training in ICT

The results of the Kruskal Wallis test on the levels of training in ICT for the tellers and customer care consultants are shown in Table 5.15. Similar results for the line managers are tabulated in Table 5.16.

Table 5.15: Kruskal Wallis test on the levels of training in ICT for the tellers and customer care consultants.

T&CCC (Group 1): Levels of training in ICT	Chi-Square	df	Asymp. Sig.	Mean rank (No training at all)	Mean rank (Informal training)	Mean rank (attendance cert)	Mean rank(competence cert)	Mean rank (diploma cert)	Mean rank (degree cert)
Motivation	14.906	3	0.002			68.86	68.10	82.32	100.79
Self-efficacy	4.694	3	0.196			73.21	73.70	90.13	89.16
Individual time management	12.232	4	0.016		42.89	81.24	79.92	95.00	97.16
Organisational time management	28.330	4	0.000		79.22	88.97	64.11	88.74	114.02
Attitude	12.82	3	0.005			76.72	70.01	73.16	101.14
Quality of information	10.063	3	0.018			78.79	68.76	84.39	96.48
Quality of ICT systems	12.188	3	0.007			67.81	71.34	86.47	98.94
Ease of use	14.974	3	0.002			78.84	66.56	83.29	100.81
Usefulness	6.939	3	0.074			82.17	70.84	76.53	94.13
Language used	21.748	3	0.000			80.88	62.31	86.18	102.66
Graphics	18.049	3	0.000			82.91	64.66	81.74	101.94
Appropriate organisational security management	16.579	4	0.002		40.44	93.97	74.76	90.89	99.48
Personal insecurity	19.834	4	0.001		98.28	93.84	66.18	83.53	105.06
Computer anxiety	11.537	3	0.009			84.79	67.74	76.50	97.66
Learning culture	27.263	3	0.000			95.47	61.18	70.95	104.05
Social support	10.879	3	0.012			82.62	66.50	89.82	93.47
Reward and recognition	8.177	3	0.042			81.09	68.49	83.97	93.25
Job characteristics	17.004	3	0.001			88.14	64.63	77.37	100.28
Supportive learning strategies	3.547	5	0.616	118.75	78.44	76.33	83.33	85.37	93.83
Directive learning strategies	2.512	5	0.775	84.50	77.22	75.28	85.17	88.00	92.10

The Kruskal Wallis results in Table 5.15 showed that there were statistical significant differences, at 5% level of significance, between the different levels of training in ICT amongst the tellers and customer care consultants with respect to motivation (p=.002), individual time management (p=.016), organisational time management (p=.000), attitude (p=.005), quality of information (p=.018), quality of ICT systems (p=.007), ease of use (p=.002), language used (p=.000), graphics (p=.000), appropriate organisational security

management (p=.002), personal insecurity (p=.001), computer anxiety (p=.009), learning culture (p=.000), social support (p=.012), reward and recognition (p=.042) and job characteristics (p=.001) factors. No statistically significant differences exist between the different levels of training in ICT among the tellers and customer care consultants with regard to the remaining factors shown in Table 5.15.

From Table 5.15, the tellers and customer care consultants with a degree as their highest level of training in ICT had significantly higher mean ranks in motivation (mean rank = 100.79), individual time management (mean rank = 97.16), organisational time management (mean rank = 114.02), attitude (mean rank = 101.14), quality of information (mean rank = 96.48), quality of ICT systems (mean rank = 98.94), ease of use (mean rank= 100.81), language used (mean rank= 102.66), graphics (mean rank= 101.94), appropriate organisational security management (mean rank = 99.48), personal insecurity (mean rank = 105.06), computer anxiety (mean rank= 97.66), learning culture (mean rank =104.05), social support (mean rank =93.47), reward and recognition (mean rank =93.25) and job characteristics (mean rank = 100.28) factors than those tellers and customer care consultants who had other levels of training in ICT (such as no training at all, informal training, training with attendance certificate, training with competence certificate and training with diploma) as their highest qualification in ICT.

These results meant that the tellers and customer care consultants with a degree in ICT perceived the organisational time management, language used, graphics, personal insecurity and learning culture factors to have high impact on their learning of the adopted banking ICT systems. That is they: take plenty of time to learn the adopted ICT systems; have sufficient time to learn the adopted ICT systems and use time on the job created by their organisation to learn the adopted ICT systems. They also perceived that the adopted ICT systems: are designed in a familiar language; use language that is easy for them to read; incorporates minimal jargons; provides clear definitions of technical terms used and applies language that encourages their quick understanding of the adopted ICT systems. Moreover, they had a view that the adopted ICT systems: have relevant diagrams; have quality pictures; use colour to highlight key points for easier

reading; avoid the use of complex graphics and balance the amount of texts with the graphics. They also felt that their work-related transactions are protected adequately against unauthorised access; they take appropriate security measures when using the adopted ICT systems; they operate the adopted ICT systems using the right commands. In addition, they perceived that in their organisation, there was continuous learning; they were guided to define their ICT learning objectives; they were allowed to make mistakes when learning the adopted ICT systems; there were a lot of opportunities that supported their learning of the adopted ICT systems; and they were provided with a variety of ICT learning programmes to bridge their ICT skills and knowledge gaps.

Table 5.16: Kruskal Wallis test on levels of training in ICT for the line managers.

LM (Group 2): Levels of training in ICT	Chi-Square	df	Asymp. Sig.	Mean rank (attendance cert)	Mean rank(competence cert)	Mean rank (diploma cert)	Mean rank (degree cert)
Motivation	0.933	3	0.818	31.19	31.91	33.56	36.64
Self-efficacy	3.743	3	0.291	40.96	32.85	25.22	33.14
Time management	0.730	3	0.866	34.54	31.30	32.00	35.90
Attitude	0.777	3	0.855	35.38	35.00	33.78	30.57
Quality of information	2.247	3	0.523	34.19	30.48	29.72	38
Quality of ICT systems	2.655	3	0.448	31.83	33.09	25.11	36.95
Ease of use	4.506	3	0.212	26.96	31.54	32.72	40.02
Job enhancement	2.761	3	0.430	30.42	30.80	32.28	38.88
Specific learning goals	1.780	3	0.619	33.38	29.74	36.11	36.57
Language	6.061	3	0.109	30.46	28.28	32.61	41.48
Graphics	9.254	3	0.026	28.35	26.98	32.83	43.03
Appropriate organisational security management	3.469	3	0.325	38.38	31.78	24.28	34.83
Personal insecurity	1.487	3	0.685	31.46	31.07	33.33	37.50
Computer anxiety	7.368	3	0.061	25.69	29.87	33.83	42.17
Learning culture	12.785	3	0.005	30.73	24.43	34.67	44.64
Social support	4.137	3	0.247	35.08	28.17	31.11	39.38
Reward and recognition	3.505	3	0.320	36.69	28.41	31.17	38.10
Expected job characteristics	6.181	3	0.103	31.58	27.07	39.06	39.36
Freedom to be innovative	2.819	3	0.420	37.88	29.59	28.44	35.90

Supportive learning strategies	3.756	3	0.289	42.19	31.17	29.11	32.55
Directive learning strategies	4.627	3	0.201	40.38	35.61	32.78	27.24

The Kruskal Wallis test results indicated that there were statistical significant differences, at the 5% level of significance, between the different levels of training in ICT of the line managers with respect to the graphics (p=.026) and the learning culture (p=.005) factors as shown in Table 5.16. No statistically significant differences exist between the different levels of training in ICT among the line managers with regard to the remaining factors shown in Table 5.16.

The line managers with a degree as the highest training in ICT had significantly higher mean ranks in the graphics (mean rank=43.03) and the learning culture (mean rank= 44.64) factors than their counterparts with other level of training in ICT.

This implied that for the majority of the line managers' team of employees, the adopted ICT systems: had relevant diagrams; had quality pictures; used colour to highlight key points for easier reading; avoided the use of complex graphics and balanced the amount of texts with the graphics. In addition, they perceived that for the majority of their team of employees, in their organisation, there was a continuous learning; their team of employees were guided to define their ICT learning objectives; their team of employees were allowed to make mistakes when learning the adopted ICT systems; there were a lot of opportunities that supported the majority of their team of employees' learning of the adopted ICT systems; and their team of employees were provided with a variety of ICT learning programmes to bridge their ICT skills and knowledge gaps.

5.4.5 Testing for differences in job position groups

The results of the independent samples t-test on the job position groups for the tellers and customer care consultants are shown in Table 5.17.

Table 5.17: Independent Samples Test on the job positions for the tellers and customer care consultants.

T&CCC (Group 1): Job positions		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean of tellers	Std. deviation	Mean of customer care consultants	Std. deviation
Motivation	Equal variances assumed	.031	.861	.427	160	.670	4.40	.48	4.37	.53
	Equal variances not assumed			.408	61.753	.685				
Self-efficacy	Equal variances assumed	.217	.642	-.360	163	.719	4.45	.46	4.48	.52
	Equal variances not assumed			-.339	64.305	.736				
Individual time management	Equal variances assumed	.499	.481	-.086	163	.932	4.23	.68	4.24	.69
	Equal variances not assumed			-.085	70.074	.933				
Organisational time management	Equal variances assumed	.157	.693	.652	163	.515	3.67	.93	3.56	.93
	Equal variances not assumed			.654	71.481	.515				
Attitude	Equal variances assumed	.062	.803	.082	163	.935	4.37	.50	4.37	.51
	Equal variances not assumed			.081	69.541	.936				
Quality of information	Equal variances assumed	3.284	.072	1.407	163	.161	4.26	.68	4.10	.59
	Equal variances not assumed			1.509	81.067	.135				
Quality of ICT systems	Equal variances assumed	.221	.639	.170	163	.866	4.22	.66	4.20	59
	Equal variances not assumed			.180	79.176	.858				
Ease of use	Equal variances assumed	.345	.558	.584	163	.560	4.21	.77	4.13	.75
	Equal variances not assumed			.591	72.618	.556				

Usefulness	Equal variances assumed	.296	.587	-.197	163	.844	4.34	.58	4.36	.59
	Equal variances not assumed			-.196	70.765	.845				
Language used	Equal variances assumed	.369	.544	-.069	161	.945	4.15	.84	4.16	77
	Equal variances not assumed			-.072	74.901	.943				
Graphics	Equal variances assumed	1.594	.209	-.421	163	.674	4.05	.85	4.11	.66
	Equal variances not assumed			-.478	91.666	.634				
Appropriate organisational security management	Equal variances assumed	.477	.491	-.027	163	.979	4.33	.58	4.33	.53
	Equal variances not assumed			-.028	77.611	.978				
Personal insecurity	Equal variances assumed	1.214	.272	-.024	163	.981	3.42	1.36	3.43	1.45
	Equal variances not assumed			-.023	66.973	.982				
Computer anxiety	Equal variances assumed	4.706	.032	1.222	163	.223	2.84	1.33	2.56	1.17
	Equal variances not assumed			1.298	79.490	.198				
Learning culture	Equal variances assumed	.133	.716	.760	163	.448	3.90	.80	3.79	.80
	Equal variances not assumed			.759	70.765	.450				
Social support	Equal variances assumed	4.053	.046	-.204	162	.838	4.23	.61	4.25	.42
	Equal variances not assumed			-.245	99.577	.807				
Reward and recognition	Equal variances assumed	2.095	.150	-.219	162	.827	4.16	.71	4.19	.57
	Equal variances not assumed			-.246	89.154	.807				
Job characteristics	Equal variances assumed	.242	.623	.829	163	.408	3.82	.92	3.69	.86
	Equal variances not assumed			.854	74.961	.396				
Supportive learning strategies	Equal variances assumed	.052	.820	-.674	163	.501	4.41	.51	4.48	.50
	Equal variances not assumed			-.682	72.568	.497				
Directive learning	Equal variances assumed	.026	.872	.256	163	.798	4.52	.55	4.49	.52

strategies	Equal variances not assumed			.263	74.594	.793				

The results of the t-test done showed no statistically significant difference at 5% level of significance, between the two job positions groups (the tellers as one job position group and the customer care consultants as the second job position group), with respect to all the factors tested as shown in Table 5.17.

5.4.6 Testing for differences in employment status

The results of the Mann-Whitney U test on the employment status for the tellers and customer care consultants are shown in Table 5.18.

Table 5.18: Mann-Whitney U test for the employment status for the tellers and customer care consultants.

T&CCC (Group 1): Employment status	Mann-Whitney U	Asymp. Sig. (2-tailed)	Mean ranks (permanent employees)	Mean ranks (temporary employees)
Motivation	707.500	0.036	85.85	58.04
Self-efficacy	842.500	0.157	86.56	67.68
Individual time management	849.000	0.156	86.52	68.14
Organisational time management	641.000	0.011	87.86	53.29
Attitude	828.500	0.138	86.65	66.68
Quality of information	544.500	0.002	88.49	46.39
Quality of ICT systems	484.000	0.000	88.88	42.07
Ease of use	695.000	0.023	87.52	57.14
Usefulness	567.500	0.003	88.34	48.04
Language used	577.000	0.009	86.75	51.38
Graphics	779.500	0.074	86.97	63.18
Appropriate organisational security management	656.000	0.012	87.77	54.36
Personal insecurity	961.000	0.471	84.20	93.86

Computer anxiety	982.000	0.555	85.66	77.64
Learning culture	996.000	0.609	85.57	78.64
Social support	644.000	0.011	87.32	53.5
Reward and recognition	505.500	0.002	87.74	45.88
Job characteristics	410.500	0.000	89.35	36.82

The results of the Mann-Whitney U test in Table 5.18 showed statistically significant differences at 5% level of significance, between the two employment status (permanent and temporary) with respect to the motivation (p=.036), the quality of information (p=.002), the quality of ICT systems (p=.000), the ease of use (p=.023), the usefulness (p=.003), the language used (p=.009), the appropriate organisational security management (p=.012), the social support (p=.011), the reward and recognition (p=.002) and the job characteristics (p=.000) factors. There was no statistically significant difference at 5% level of significance, between the two employment status (permanent and temporary) with respect to the remaining factors tested as shown in Table 5.18.

From Table 5.18, the tellers and customer care consultants who were permanently employed showed significantly higher mean ranks on the motivation (mean rank=85.85), quality of information (mean rank=88.49), quality of ICT systems (mean rank=88.88), ease of use (mean rank=87.52), usefulness (mean rank = 88.34), language used (mean rank=86.75), appropriate organisational security management (mean rank = 87.77), social support (mean rank = 87.32), reward and recognition (mean rank= 87.74) and job characteristics (mean rank = 89.35) than those who were temporarily employed.

Table 5.19: Independent sample tests for the employment status for the tellers and customer care consultants.

Tellers and customer care consultants: Employment status (Strategies)		Levene's Test for Equality of Variances		T-test for Equality of means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean of permanent employment	Std.deviation of permanent employment	Mean of temporary employment	Std. deviation of temporary employment
Supportive Learning Strategies	Equal variances assumed	.148	.701	2.229	167	.027	4.44	.51	4.12	.57
	Equal variances not assumed			2.040	14.965	.059				
Directive Learning Strategies	Equal variances assumed	5.664	.018	2.471	167	.014	4.52	.51	4.14	.85
	Equal variances not assumed			1.632	13.867	.125				

The results of the Independent sample tests in Table 5.19 showed statistically significant differences at 5% level of significance, between the two employment status (permanent and temporary) with respect to the supportive learning strategies (p=.027) and the directive learning strategies (p=.014) factors. From Table 5.19, the tellers and customer care consultants who were permanently employed showed a higher mean (M=4.44 and M=4.52) for supportive learning strategies and directive learning strategies factors respectively, than those who were temporarily employed.

These results from Tables 5.18 and 5.19 meant that the tellers and customer care consultants who were permanently employed perceived the quality of information, the quality of the ICT systems, the usefulness and the job characteristics factors to have had a high impact on their learning of the adopted banking ICT systems. In other words, they perceived that the information on the adopted ICT systems: were relevant; were accurate to learn; could be easily understood; were complete to learn and interesting to read. They were also of the view that the quality of the adopted ICT systems: were reliable to perform their job tasks; were flexible to use; had a fast response when given the right

commands; were sustainable and had clear instructions. Moreover, the permanently employed tellers and customer care consultants felt that the adopted ICT systems: enhanced their job performance; eased their job tasks; were very efficient to achieve their ICT learning goals; were useful to learn and were comprehensive to cover all their learning needs. In addition, they perceived that in their organisation: they received sufficient ICT learning opportunities to successfully adjust to the workplace challenges; their job allowed the full use of their ICT knowledge and skills; they were positively pressured to achieve their ICT learning goals; their job was characterised by some form of independence in which they could make their own ICT systems' related decisions and their managers encouraged them to infuse new ICT ideas into their work.

The Mann Whitney U test for the employment status could not be done for the line managers as there were only two (2) people on contract.

5.4.7 Testing for differences in period of working experience with banking ICT

The results of the Kruskal Wallis test on the working experience with ICT for the tellers and customer care consultants are shown in Table 5.20. Similar results for the line managers are recorded in Table 5.21.

Table 5.20: Kruskal Wallis test on working experience with ICT for the tellers and customer care consultants.

T&CCC(Group 1): Working experience with ICT	Chi-Square	df	Asymp. Sig.	Mean ranks(0 to 2 years)	Mean ranks (3 to 5 years)	Mean ranks (6 to 8 years)	Mean ranks(9 and more years)
Motivation	7.645	3	0.054	60.71	89.49	82.29	88.03
Self-efficacy	6.807	3	0.078	67.79	92.82	80.53	75.50
Individual time management	8.053	3	0.045	69.92	90.91	72.59	99.22
Organisational time management	14.552	3	0.002	62.08	89.08	75.63	116.78
Attitude	4.561	3	0.207	74.12	91.48	74.47	85.28
Quality of information	9.911	3	0.019	60.23	89.78	82.7	101.47
Quality of ICT systems	9.98	3	0.019	63.73	89.97	77.08	105.9
Ease of use	12.506	3	0.006	63.00	89.72	75.59	111.53
Usefulness	4.296	3	0.231	71.33	86.38	83.27	102.50
Language used	12.978	3	0.005	53.64	89.64	84.79	96.44
Graphics	13.482	3	0.004	61.88	89.59	76.22	112.84
Appropriate organisational security management	7.326	3	0.062	67.00	88.17	80.25	104.94
Personal insecurity	5.318	3	0.150	86.13	83.04	77.41	110.00
Computer anxiety	10.958	3	0.012	86.25	81.12	76.83	122.34
Learning culture	10.956	3	0.012	65.23	87.26	79.42	114.84
Social support	11.205	3	0.011	56.23	88.16	94.79	88.78
Reward and recognition	11.137	3	0.011	56.27	90.91	84.88	91.94
Job characteristics	12.245	3	0.007	58.58	89.07	82.56	108.63

Supportive learning strategies	6.479	3	0.091	74.48	93.28	73.73	75.47
Directive learning strategies	1.657	3	0.065	79.12	89.01	81.33	78.13

The Kruskal Wallis test results in Table 5.20 indicated that there were statistically significant differences, at the 5% level of significance, between the different period of working experience with the banking ICT among the tellers and customer care consultants with respect to the organisational time management (p=0.002), the quality of information (p=.019), the quality of ICT systems (p=.019), the ease of use (p=.006), the language used (p=.005), the graphics (p=.004), the computer anxiety (p=.012), the learning culture (p=.012), the social support (p=.011), the reward and recognition (p=.011) and the job characteristics (p=.007) factors. No statistically significant differences exist between the different period of working experience with the banking ICT among the tellers and customer care consultants with regard to the remaining factors shown in Table 5.20.

As shown in Table 5.20, the tellers and customer care consultants with 9 years or more working experience with banking ICT systems had significantly higher mean ranks in the following factors: the organisational time management (mean rank = 116.78); quality of information (mean rank = 101.47); quality of ICT systems (mean rank = 105.91), ease of use (mean rank = 111.53), language used (mean rank = 96.44), graphics (mean rank = 112.84), computer anxiety (mean rank = 122.34), learning culture (mean rank=114.84), reward and recognition (mean rank =91.94) and job characteristics (mean rank = 108.63) than tellers and customer care consultants with 0 to 2 years, 3 to 5 years and 6 to 8 years working experience with the banking ICT systems.

These results implied that the tellers and customer care consultants with 9 years or more working experience with banking ICT systems perceived the organisational time management, the ease of use, the graphics, the computer anxiety and the learning culture factors to have had a high impact on their learning of the adopted banking ICT systems. In other words, these tellers and customer care consultants with 9 years or more working experience with the banking ICT systems: took plenty of time to learn the

adopted ICT systems; had sufficient time to learn the adopted ICT systems and used time on the job created by their organisation to learn the adopted ICT systems. They also perceived the adopted ICT systems to: use understandable terms; be easy to use; be easy to learn; have friendly technical functions to use and have learning materials that are free of effort to find. These tellers and customer care consultants were also of the view that the adopted ICT systems: had relevant diagrams; had quality pictures; used colour to highlight key points for easier reading; avoided the use of complex graphics and balanced the amount of texts with the graphics. Moreover, they perceived that working with computers made them: nervous; uncomfortable; worried whether they would succeed to learn the adopted ICT systems; scared and they had basic knowledge and skills in ICT. In addition, in their organisation: there was continuous learning; they were guided to define their ICT learning objectives; they were allowed to make mistakes when learning the adopted ICT systems; there were a lot of opportunities that supported their learning of the adopted ICT systems; and they were provided with a variety of ICT learning programmes to bridge their ICT skills and knowledge gaps.

These findings concurred with Coetzer (2016), that respondents with short tenures viewed both work environment conditions and their immediate supervisors' level of proximate support for learning more favourably than respondents with relatively longer tenures did.

Table 5.21: Kruskal Wallis test on the working experience with ICT systems for the line managers.

LM (Group 2): Working experience with ICT systems	Chi-Square	df	Asymp. Sig.	Mean rank (3 to 5 years)	Mean rank (6 to 8 years)	Mean rank (9 and more years)
Motivation	8.038	2	0.018	17.38	34.2	39.37
Self-efficacy	7.150	2	0.028	17.69	35.00	38.48

Time management	1.627	2	0.443	27.19	33.92	37.03
Attitude	3.615	2	0.164	34.69	29.68	39.27
Quality of information	8.675	2	0.013	16.94	34.43	39.25
Quality of ICT systems	5.477	2	0.065	22.94	31.73	39.40
Ease of use	5.813	2	0.055	21.31	33.23	39.28
Job enhancement	7.805	2	0.020	17.44	35.70	37.85
Specific learning goals	3.060	2	0.216	29.81	31.33	38.92
Language used	7.327	2	0.026	22.31	31.4	40.85
Graphics	6.607	2	0.037	18.43	33.03	38.60
Appropriate organisational security management	9.215	2	0.010	26.79	27.93	41.77
Personal insecurity	5.176	2	0.075	31.69	29.30	40.45
Computer anxiety	2.527	2	0.283	28.50	32.02	38.58
Learning culture	6.307	2	0.043	22.69	31.70	40.45
Social support	12.077	2	0.002	16.63	31.65	42.12
Reward and recognition	8.232	2	0.016	18.81	32.93	40.25
Expected job characteristics	9.168	2	0.010	21.31	31.13	41.38
Freedom to be innovative	9.895	2	0.007	21.69	29.66	41.48
Supportive learning strategies	2.898	2	0.235	23.88	35.05	36.78
Directive learning strategies	0.367	2	0.832	31.81	33.82	35.90

The Kruskal Wallis test results in Table 5.21 indicated that there were statistically significant differences, at the 5% level of significance, between the different period of working experience with the banking ICT among the line managers with respect to the motivation (p=.018), the self-efficacy (p=.028), the quality of information (p=.013), the job enhancement (p=.020), the language (p=.026), the graphics (p=.037), the appropriate

organisational security management (p=.010), the learning culture (p=.043), the social support (p=.002), the reward and recognition (p=.016), the expected job characteristics (p=.010) and the freedom to be innovative (p=.007) factors. No statistically significant differences exist between the different period of working experience with the banking ICT among the line managers with regard to the remaining factors shown in Table 5.21.

As shown in Table 5.21, the Kruskal Wallis test results revealed that the line managers with 9 or more years of working experience with the banking ICT systems had significantly higher mean ranks in the following factors: the motivation (mean rank = 39.37); self-efficacy (mean rank= 38.48), quality of information (mean rank=39.25), job enhancement (mean rank = 37.85), language used (mean rank=40.85), graphics (mean rank=38.60), appropriate organisational security management (mean rank = 41.77), learning culture (mean rank=40.45), social support (mean rank=42.12), reward and recognition (mean rank =40.25), expected job characteristics (mean rank = 41.38) and freedom to be innovative (mean rank = 41.48) than line managers with 0 to 2 years, 3 to 5 years and 6 to 8 years working experience with the banking ICT systems.

These results in Table 5.21 suggested that line managers with 9 or more years of working experience with the banking ICT systems considered the appropriate organisational security management, the social support, the expected job characteristics and the freedom to be innovative to have high impact on the learning of the banking ICT systems among their team of employees. That is, the majority of their team of employees' work-related transactions were protected adequately against unauthorised access; the employees took appropriate security measures when using the adopted banking ICT systems and the employees operated the adopted ICT systems using the right commands. In terms of the social support, the majority of their team of employees: were motivated to learn the adopted ICT systems when their peers supported them; were encouraged when their managers showed an interest in their learning of the adopted ICT systems; performed their job tasks better when their managers coached them; achieved their ICT learning goals that their managers set and the employees' learning of the adopted ICT systems was enhanced when their managers clearly defined their learning

goals. With regard to the expected job characteristics, the line managers perceived that the majority of their team of employees: received sufficient ICT learning opportunities to successfully adjust to the work place challenges; were positively pressured to achieve their ICT learning goals and the employees' job allowed the full use of their ICT knowledge and skills. For the freedom to be innovative, the line managers had the view that the majority of their team of employees' job was characterised by some form of independence in which they made their own ICT systems' related decision and managers encouraged them to infuse new ICT ideas into their work.

5.4.8 Testing for differences in the number of training workshops, seminars or conferences attended

The results of the Kruskal Wallis test on the number of training workshops, seminars and conferences attended by the tellers and customer care consultants are shown in Table 5.22. Similar results for the line managers have been presented in Table 5.23.

Table 5.22: Kruskal Wallis test on the number of training workshops, seminars or conferences attended by the tellers and customer care consultants.

T&CCC (Group 1): Number of training attended	Chi-Square	df	Asymp. Sig.	Mean ranks (0 to 2 training workshops or seminars or conferences attended)	Mean ranks (3 to 5 training workshops or seminars or conferences attended)	Mean ranks (6 and more training workshops or seminars or conferences attended)
Motivation	7.350	2	0.025	74.56	94.08	72.26
Self-efficacy	7.103	2	0.029	73.49	93.06	94.53
Individual time management	6.964	2	0.031	74.05	92.00	96.82
Organisational time management	5.202	2	0.074	75.20	93.17	87.66
Attitude	3.907	2	0.142	81.98	91.61	68.79
Quality of information	4.194	2	0.123	79.20	92.86	73.97

Quality of ICT systems	3.394	2	0.183	78.04	92.22	81.00
Ease of use	8.000	2	0.018	75.72	96.12	73.45
Usefulness	1.385	2	0.500	83.42	88.83	75.00
Language used	4.898	2	0.086	74.85	91.78	86.39
Graphics	3.411	2	0.182	77.33	91.75	85.58
Appropriate organisational security management	3.528	2	0.171	77.08	91.53	87.45
Personal insecurity	6.359	2	0.042	74.25	91.68	97.39
Computer anxiety	6.440	2	0.040	77.40	94.98	71.89
Learning culture	12.822	2	0.002	69.30	96.89	94.24
Social support	4.464	2	0.107	75.49	90.39	94.22
Reward and recognition	6.647	2	0.036	73.38	92.6	92.79
Job characteristics	4.955	2	0.084	76.42	93.77	80.58
Supportive learning strategies	2.435	2	0.296	84.29	89.20	70.18
Directive learning strategies	.740	2	0.691	83.47	87.91	78.61

The results from the Table 5.22 also showed that there were statistically significant differences, at the 5% level of significance, between the different numbers of training workshops, seminars or conferences attended among the tellers and customer care consultants with respect to the motivation (p=.025), the self-efficacy (p=.029), the individual time management (p=.031), the ease of use (p=.018), the personal insecurity (p=.042), the computer anxiety (p=.040), the learning culture (p=.002) and the reward and recognition (p=.036) factors. No statistically significant differences exist between the numbers of training workshops or seminars or conferences attended among the tellers and customer care consultants with regard to the remaining factors shown in Table 5.22.

From Table 5.22, the Kruskal Wallis test results indicated that the tellers and customer care consultants who had attended between 3 and 5 training workshops or seminars or

conferences had significantly higher mean ranks in the motivation (mean rank= 94.08), ease of use (mean rank=96.12), computer anxiety (mean rank=94.98), learning culture (mean rank=96.89) than the tellers and customer care consultants who had attended 0 to 2 training workshops or seminars or conferences. Tellers and customer care consultants who had attended 6 or more training workshops or seminars or conferences had significantly higher mean ranks in the self-efficacy (mean rank=94.53), individual time management (mean rank = 96.82), personal insecurity (mean rank = 97.39) and reward and recognition (mean rank=92.79) than the tellers and customer care consultants who had attended 0 to 2 and 3 to 5 training workshops or seminars or conferences.

The results from Table 5.22 meant that the tellers and customer care consultants who had attended 3 to 5 training workshops or seminars or conferences perceived the ease of use and the learning culture factors to have high impact on their learning of the adopted banking ICT systems. That is, they perceived that the adopted ICT systems: used understandable terms; were easy to use; were easy to learn; had friendly technical functions to use and had learning materials that were free of effort to find. They also viewed that in their organisation, there was continuous learning; they were guided to define their ICT learning objectives; they were allowed to make mistakes when learning the adopted ICT systems; there were a lot of opportunities that supported their learning of the adopted ICT systems; and they were provided with a variety of ICT learning programmes to bridge their ICT skills and knowledge gaps.

The results from Table 5.22 also implied that the tellers and customer care consultants who had attended 6 or more training workshops or seminars or conferences and had a mean rank above 95 viewed the individual time management and personal insecurity factors to have high impact on their learning of the adopted banking ICT systems. In other words, they were able to manage their own time to learn the adopted ICT system; they were able to identify their free time when at work. They also felt that their work-related transactions were protected adequately against unauthorised access; they took appropriate security measures when using the adopted ICT systems; they operated the adopted ICT systems using the right commands.

Table 5.23: Kruskal Wallis test on the number of training workshops, seminar and conferences attended by the line managers.

LM (Group 2): Number of training attended	Chi-Square	df	Asymp. Sig.	Mean ranks (0 to 2 training workshops or seminars or conferences attended)	Mean ranks (3 to 5 training workshops or seminars or conferences attended)	Mean ranks (6 and more training workshops or seminars or conferences attended)
Motivation	5.976	2	0.050	24.92	37.97	24.83
Self-efficacy	3.276	2	0.194	28.42	37.07	26.83
Time management	.940	2	0.625	27.17	35.41	34.38
Attitude	0.525	2	0.769	36.08	35.19	30.83
Quality of information	8.432	2	0.015	17.42	38.25	27.42
Quality in ICT systems	3.428	2	0.180	26.33	36.60	27.21
Ease of use	11.427	2	0.003	10.92	38.20	30.88
Job enhancement	10.486	2	0.005	21.00	38.88	23.00
Specific learning goals	6.362	2	0.042	19.75	37.66	28.71
Language used	11.824	2	0.003	9.33	37.74	33.58
Graphics	4.968	2	0.083	20.67	36.87	28.96
Appropriate organisational security management	4.039	2	0.133	29.67	36.72	25.04
Personal insecurity	4.578	2	0.101	27.83	37.49	25.38
Computer anxiety	5.408	2	0.067	22.17	37.74	27.17
Learning culture	6.469	2	0.039	16.00	37.22	32.42
Social support	2.464	2	0.292	22.75	35.90	34.54
Reward and recognition	6.749	2	0.034	15.50	35.68	39.08

Expected job characteristics	1.789	2	0.409	24.83	35.47	35.29
Freedom to be innovative	1.157	2	0.561	29.00	35.42	30.17
Supportive learning strategies	1.074	2	0.585	41.42	33.27	36.17
Directive learning strategies	2.271	2	0.321	42.33	32.49	38.96

The results in the Table 5.23 also showed that there were statistically significant differences, at the 5% level of significance, between the different numbers of training workshops, seminars or conferences attended among the line managers with respect to the motivation (p=.050), the quality of information (p=.015), the ease of use (p=.003), the job enhancement (p=.005), specific learning goals (p=.042), the language used (p=.003), the learning culture (p=.039) and the reward and recognition (p=.034) factors. No statistically significant differences exist between the different numbers of training workshops or seminars or conferences attended among the line managers with regard to the remaining factors shown in Table 5.23.

Observing Table 5.23, the Kruskal Wallis test results indicated that the line managers who had attended between 3 and 5 training workshops or seminars or conferences had significantly higher mean ranks in the motivation (mean rank= 37.97), the quality of information (mean rank=38.25), the ease of use (mean rank=38.20), the job enhancement (mean rank = 38.88), the specific learning goals (mean rank = 37.66), the language used (mean rank=37.74) and the learning culture (mean rank=37.22) factors than the line managers who had attended between 0 and 2 training workshops, seminars or conferences. Line managers who had attended 6 or more training or seminars or workshops or conferences had a significantly higher mean rank in the reward and recognition (mean rank=39.08) factor than the line managers who had attended 0 to 2 and 3 to 5 training workshops, seminars or conferences.

From Table 5.23, the results suggested that the line managers who had attended 3 to 5 training workshops or seminars or conferences and had a mean rank above 38 perceived the quality of information, the ease of use and the job enhancement factors to have high

impact on their learning of the adopted banking ICT systems among their team of employees. In other words, the line managers perceived that for the majority of their team of employees, the information on the adopted ICT systems: was relevant to learn; was accurate to learn; could be easily understood; was complete to learn and was interesting to read. They also perceived that for the majority of their team of employees, the adopted ICT systems: used understandable terms; were easy to use; were easy to learn; had friendly technical functions to use and had learning materials that were free of effort to find. In addition, the line managers felt that for the majority of their team of employees, the adopted ICT systems: enhanced their job performance; eased their job tasks and were useful to learn.

It was also noted from Table 5.23 that the line managers who had attended 6 and more training workshops or seminars or conferences and had a mean rank above 39 viewed the reward and recognition factor to have a high impact on the learning of the adopted ICT systems among their team of employees. That is, in their organisation, the majority of their team of employees: were motivated to learn the adopted ICT systems when an appropriate reward and recognition was given to them; appreciated concrete and tangible rewards when they acquired the desired ICT knowledge and skills; were encouraged to learn the adopted ICT systems when they got a positive appraisal; the employees' knowledge and skills in ICT acquired prior to the workplace training programmes were recognised and they received incentives for meeting their learning goals in the adopted ICT systems.

Therefore, the results of the statistical tests conducted in this Section (5.4) partially confirmed the alternative research hypotheses. **Ha4:** *There are statistically significant differences between the categories defined for each demographic variable with regard to each of the individual employee, organisational and ICT systems based factors for each respondent group.* **Ha5:** *There are statistically significant differences between the categories defined for each demographic variable with regard to each of the strategy factors for each respondent group.*

5.5 SUMMARY

Chapter 5 reported and discussed results on the Pearson product - moment correlation which evaluated the strength and statistical significance of the linear relationship between the statements on the status of ICT knowledge and skills, amongst the line managers and the individual employee, organisational and ICT systems based factors. Most of the variables correlated positively ranging from $r \geq .240$ ($p \leq .05$) $\leq .480$ ($p \leq .01$). The linear relationship between the factors in the two groups showed that the associations were all positive and significant with the strength of the correlation shown by the coefficients. The significant associations ranged between $r \geq .200$ ($p \leq .05$) and $r \leq .795$ ($p \leq .001$) for tellers and customer care consultants and between $r \geq .247$ ($p \leq .05$) and $r \leq .812$ ($p \leq .001$) for line managers. These findings answered the research objective 3 and accepted the alternative research hypothesis **Ha1**.

In this chapter 5, the inferential statistical tests were also performed to assess whether the two groups (the tellers and customer care consultants (T&CCC) as the first group and the line managers (LM) as the second group) had statistical significant differences regarding their level of agreement on each of the individual employee, organisational and ICT systems based factors that affect their learning of the adopted banking ICT systems before undergoing training (This was to answer the research objective 4). The inferential statistical tests were also conducted to investigate whether statistically significant differences exist between the two respondent groups (the tellers and customer care consultants as the first group and the line managers as the second group) with regard to their level of agreement on each of the strategy factors that can optimally address the factors that support learning of the adopted banking ICT systems before undergoing training (This was to answer the research objective 5).

The results from the first group (the tellers and customer care consultants) and second group (the line managers) indicated that there was statistically significant differences, at the 5% level of significance, between the two respondent groups with regard to their level of agreement on each of the individual employee, organisational and ICT systems based

factors that affect their learning of the adopted banking ICT systems before undergoing training as summarised in the Table 5.23.

Table 5.24: Summary of statistically significant differences between the two respondent groups with regard to their level of agreement on each of the individual employee, organisational and ICT systems based factors.

Factors	Statistically significant differences at the 5% level of significance between the two respondent groups with regard to their level of agreement
Individual employee	The self-efficacy and the attitude factors
ICT systems	The quality of information, the quality of ICT systems and the ease of use factors
Organisational	The learning culture
Strategy	Not applicable

From Table 5.23 the summary showed that the alternative hypothesis, **Ha4** that: there are statistically significant differences between the two respondent groups with regard to their level of agreement on each of the individual employee, organisational and ICT systems based factors that affect their learning of the adopted banking ICT systems before undergoing training, should not be rejected.

Thus the null hypothesis that there are no statistically significant differences between the two respondent groups with regard to their level of agreement on each of the individual employee, organisational and ICT systems based factors that affect their learning of the adopted banking ICT systems before undergoing training, was not rejected for the remaining factors, namely the motivation, language, graphics, computer anxiety, social support, and reward and recognition.

This Chapter 5 also reported on the tests for the statistical significant differences between the categories defined for each demographic variable with regard to the individual employee, organisational and ICT systems based factors for each respondent group (This was to answer the empirical research objective 6). The chapter also reported

on the tests for statistical significant differences between the categories defined for each demographic variable with regard to the strategy factors for each respondent group (This was to answer the research objective 7).

Both the parametric and non-parametric tests were performed to assess whether there was statistical significant differences between the categories of each demographic variable regarding their mean scores or mean ranks for the factors.

The results from the first group (the tellers and customer care consultants) and second group (the line managers) indicated that there was statistically significant difference, at the 5% level of significance as summarised in the Table 5.24.

Table 5.25: Summary of the statistically significant differences between the categories of each demographic variable.

Demographic variable	**Factors that had statistically significant difference at the 5% level of significance for the tellers and customer care consultants (Respondent group 1)**	**Factors that had statistically significant difference at the 5% level of significance for the line managers (Respondent group 2)**
Gender	The learning culture and appropriate organisational security management	The personal insecurity and supportive learning strategies
Age	The organisational time management, graphics, computer anxiety, learning culture and job characteristics	None
Level of education	The organisational time management, graphics and computer anxiety	None
Level of training in ICT	The motivation, individual time management, organisational time management, attitude, quality of	The graphics and learning culture

	information, quality of ICT systems, ease of use, language used, graphics, appropriate organisational security management, personal insecurity, computer anxiety, learning culture, social support, reward and recognition and job characteristics	
Job positions	None	Not applicable
Employment status	The motivation, quality of information, quality of ICT systems, ease of use, usefulness, language used, appropriate organisational security management, social support, reward and recognition and job characteristics	No test was done
Period of working experience with banking ICT systems	The organisational time management, quality of information, quality of ICT systems, ease of use, language used, graphics, computer anxiety, learning culture, social support, reward and recognition and job characteristics	The motivation, self-efficacy, quality of information, job enhancement, language used, graphics, appropriate organisational security management, learning culture, social support, reward and recognition, expected job characteristics and freedom to be innovative
Number of training workshops or seminars or conferences attended	The motivation, self-efficacy, individual time management, ease of use, personal insecurity, computer anxiety, learning culture and reward and recognition	The motivation, quality of information, ease of use, job enhancement, specific learning goals, language used, learning culture and reward and recognition

The summary from Table 5.24 showed that the alternative hypothesis, **Ha4** that: *there are statistically significant differences between the categories defined for each*

demographic variable with regard to each of the individual employee, organisational and ICT systems based factors for each respondent group, should not be rejected*.*

The null hypothesis that states: there are no statistically significant differences between the categories defined for each demographic variable with regard to each of the individual employee, organisational and ICT systems based factors for each respondent group should not be rejected for the factors that did not have statistical significant differences at 5% level of significance in each demographic category.

The Table 5.24 also provided that the alternative hypothesis, **Ha5** that**:** *there are statistically significant differences between the categories defined for each demographic variable with regard to each of the strategy factors for each respondent group*, should not be rejected because of the supportive learning strategies factor that appeared in the gender category.

The null hypothesis that states: there are no statistically significant differences between the categories defined for each demographic variable with regard to each of the strategy factors for each respondent group, should not be rejected because of the existence of strategy factors in the remaining demographic categories.

Therefore, the results of the inferential statistical tests conducted in this Chapter 5, provided supportive evidence for achieving the research objectives 3, 4, 5, 6 and 7.

Chapter 6 will provide the conclusions about the study of identifying and empirically investigating the individual employee, organisational and ICT systems based factors that support the employees' learning of the adopted Kenyan retail banking ICT systems before undergoing training. The chapter will also contain recommendations on future research areas about learning in the workplace.

CHAPTER 6 : CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

Chapter 1 provided the scientific orientation to the research, Chapter 2 was dedicated to the literature study and Chapter 3 discussed the quantitative research methodology applied to this study. In Chapter 4, the demographics of the target respondents, descriptive statistics of all items, exploratory factor analyses and discussions of the findings were reported. Chapter 5 discussed the inferential statistical tests which were conducted to assess firstly whether the two groups (the tellers and customer care consultants as the first group and the line managers as the second group) had statistical significant differences regarding their mean scores for the individual employee, organisational, ICT systems and strategy factors identified in the questionnaires. Secondly, both parametric and non-parametric tests (where group sizes were small) were performed to assess whether there were statistical significant differences between the categories of each demographic variable (gender, age, highest level of education, highest qualification in ICT, job position, employment status, experience with the banking ICT systems and the number of training programmes attended before) with regard to each of the individual employee, organisational, ICT systems and strategy factors identified. Linear relationships between all pairs of identified set factors were also tested.

In Chapter 6, the discussions, conclusions, recommendations, reflections on the study and suggestions for future research will be presented. The chapter will provide suggestions for further research as an outcome of the results of this study.

6.2 DISCUSSIONS

The discussions on the conclusions will start by recapping on the focus of the research problem statement of the study. As stated in Chapter 1, the research problem statement

of this study focuses on the lack of a previous research-based study that identified and empirically investigated factors that support employees' learning of the adopted banking ICT systems at the workplace before attending training in the Kenyan banking industry.

This research problem statement was formulated in terms of the following primary research question:

- Which individual employee, organisational and ICT systems based factors can be identified and empirically investigated in order to determine the extent to which these factors support the employees' learning of the adopted Kenyan retail banking ICT systems before undergoing training?

In order to simplify the answers to this primary research question, several sub-research questions were formulated. The research question for the literature study was stated as: How does the literature conceptualise the individual employee, organisational and ICT systems based factors that affect the employees' learning of the adopted ICT systems at the workplace?

The research questions stated in Chapters 1 and 3 for the empirical study were outlined as follows:

- What is the level of agreement regarding each of the individual employee, organisational and ICT systems based factors, as perceived by the respondent groups (the tellers and customer care consultants as one group and the line managers as the second group) in the Kenyan retail banks, which affect their learning of the adopted banking ICT systems before undergoing training? (Research question 1).
- What is the level of agreement regarding each of the strategy factors as perceived by the respondent groups (the tellers and customer care consultants as one group and the line managers as the second group) in the Kenyan retail banks that can optimally

address the factors that affect their learning of the adopted banking ICT systems before undergoing training? (Research question 2).

- What is the linear relationship between the individual employee, organisational, ICT systems and strategies based factors for each respondent group (the tellers and customer care consultants as one group and the line managers as the second group) in the Kenyan retail banks? (Research question 3).
- Do statistically significant differences exist between the two respondent groups (the tellers and customer care consultants as one group and the line managers as the second group) with regard to their level of agreement on each of the individual employee, organisational and ICT systems based factors that affect their learning of the adopted banking ICT systems before undergoing training? (Research question 4).
- Do statistically significant differences exist between the two respondent groups (the tellers and customer care consultants as one group and the line managers as the second group) with regard to their level of agreement on each of the strategy factors that can optimally address the factors that affect learning of the adopted banking ICT systems before undergoing training? (Research question 5).
- Do statistically significant differences exist between the categories defined for each demographic variable (gender, age, highest level of education, highest qualification in ICT, job position, employment status, experience with the banking ICT systems and the number of training programmes attended before) with regard to each of the individual employee, organisational and ICT systems based factors for each respondent group (the tellers and customer care consultants as one group and the line managers as the second group)? (Research question 6).
- Do statistically significant differences exist between the categories defined for each demographic variable (gender, age, highest level of education, highest qualification in ICT, job position, employment status, experience with the banking ICT systems and the number of training programmes attended before) with regard to each of the strategy factors for each respondent group (the tellers and customer care consultants as one group and the line managers as the second group)? (Research question 7).

Thus, the purpose of this chapter is to provide a summary regarding the process followed in this study to answer the preceding research questions. The literature study in Chapter 2 covered the factors that affected the learning of the adopted ICT systems at workplaces before training. The factors were classified as individual employee based factors (such as motivation, self-efficacy, time management and attitude), organisational based factors (such as learning culture, social support, reward and recognition and job characteristics) and ICT systems based factors (such as the perceived quality of the information, perceived quality of the ICT systems, perceived ease of use, perceived usefulness, perceived security, language used, graphics and computer anxiety).

The empirical study was conducted within the domain of the positivistic research approach as presented in Chapter 3. This was due to the nature of the research questions under investigation and the epistemological inclinations of the researcher. The researcher used a quantitative research design to obtain empirical data on the factors. Chapter 4 presented the level of agreement amongst the respondents with regard to the factors. In Chapter 5, this data was used to determine the way the respondents differed with regard to their level of agreement with the identified factors and the way they differed with regard to different categories of the demographic variables. The linear relationships between the factors were also investigated. The interpretations of the results were made in Chapters 4 and 5 so as to answer the primary and secondary objectives of the study.

6.3 CONCLUSIONS OF THE STUDY

The research conclusions answer the eight research sub questions.

6.3.1 Factors that affect learning of the adopted ICT systems

This study dedicated Chapter 2 to the conceptualisation of how the identified major factors (the individual employee, organisational and ICT systems factors) in the literature

can affect employees' learning before attending learning programmes. The empirical results from the descriptive statistics have confirmed that the respondents are in agreement that motivation, self-efficacy and attitude factors (as individual employee factors); the quality of information, quality of ICT systems, ease of use, language, graphics and computer anxiety factors (as the ICT systems factors); and the social support and reward and recognition factors (as the organisational factors) are indeed the factors that affect learning of the retail banking ICT systems before undergoing training.

6.3.2 Level of agreement of the two respondent groups with regard to each of the factors

The level of agreement among the tellers and customer care consultants as one group, with regard to each of the factors they perceived to affect their learning of the adopted banking ICT systems before undergoing training was determined using stacked charts. Similarly, the level of agreement among the line managers as the second group, with regard to each of the factors perceived to affect the majority of their team of employees' learning of the adopted banking ICT systems before undergoing training was determined using stacked charts.

The results showed that there were high level of agreement among the tellers and customer care consultants as well as among the line managers with regard to each of the factors named motivation, self-efficacy, time management, attitude, quality of information, quality of ICT, ease of use, usefulness, security, language used, graphics, learning culture, social support, reward and recognition and strategy factor. However, there was low level of agreement of the tellers and customer care consultants as well as the line managers with regard to the factor named computer anxiety.

Both groups (the tellers and customer care consultants as one group and the line managers as the second group) of respondents generally agreed that the identified factors categorised as individual employee, organisational and ICT systems factors do support the employees' learning of the adopted banking ICT systems before undergoing

training. These results concurred with the results found by (Yau & Cheng 2011; Mitchell 2012; Fonchamnyo 2013; Vitanova *et al.* 2015; Rawashdeh 2015; Alqurashi 2016; Kyndt, Vermeire & Cabus 2016; Meyer 2017).

6.3.3 Linear relationship between the identified factors for each respondent group

The Pearson product-moment correlation analysis results indicated that there were statistical significant and positive linear relationships between the individual employee, organisational, ICT systems and strategy factors. The results showed that the significant associations ranged between $r \geq .200$ ($p \leq .05$) and $r \leq .795$ ($p \leq .001$) for the tellers and customer care consultants (group 1). In the line managers group (group 2), the significant associations ranged between $r \geq .247$ ($p \leq .05$) and $r \leq .812$ ($p \leq .001$).

In the questionnaire for the tellers and customer care consultants, the quality of information factor had the strongest associations with the quality of the ICT systems factor followed by the ease of use and the language used factors. The weakest association was with the computer anxiety. In the questionnaire for the line managers, the quality of information factor had the strongest associations with the quality of ICT systems factor followed by the ease of use and the graphics factors. The weakest association was with the factor named attitude. For both the questionnaires, the computer anxiety factor had the weakest associations with almost all the other factors. In the questionnaire for the tellers and customer care consultants, the strongest associations were with the learning culture factor followed by the graphics and reward and recognition factors. The weakest association was with the language used factor. In the questionnaire for the line managers, computer anxiety factor had the strongest associations with the quality of information factor followed by the reward and recognition and the learning culture factors. The computer anxiety factor had its weakest association with the motivation and language used factors.

This finding provided supportive evidence of the research objective 3 that is to determine the linear relationship between the individual employee, organisational, ICT systems and strategy factors for each respondent group (the tellers and customer care consultants as the first group and the line managers as the second group).

A correlation analysis was also conducted to evaluate the strength and statistical significance of the relationships between each of the statements on the status of the ICT knowledge and skills and the individual employee, organisational and ICT systems factors among the line managers (group 2). It was found that most of the factors correlated positively with the statements of the ICT knowledge and skills, ranging from r ≥.240 (p≤ .05) as a small practical effect between the factors to r ≤ .480 (p≤ .01) as a medium practical effect between the factors. The highest correlations were found with the expected job characteristics and the language factors.

6.3.4 Statistical differences between the two respondent groups with regard their level of agreement on each of the factors

The results of the independent samples tests indicated that there were statistically significant differences at the 5% level of significance between the two respondent groups (the tellers and customer care consultants as group one and the line managers as group two) with respect to the factors named the self-efficacy, the attitude, the quality of information, the quality of ICT systems, the ease of use, and the learning culture. No statistically significant differences were found between the two groups of respondents for the factors named the motivation, the language used in the systems, the graphics used in the ICT systems, the computer anxiety, the social support and the reward and recognition.

Thus the alternative hypothesis, **Ha2** which stated that *there are statistically significant differences between the two respondent groups with regard to their level of agreement on each of the individual employee, organisational and ICT systems based factors that*

affect their learning of the adopted banking ICT systems before undergoing training cannot be rejected for the factors stated as statistically significant above.

The null hypothesis which stated that *there are no statistically significant differences between the two respondent groups with regard to their level of agreement on each of the individual employee, organisational and ICT systems based factors that affect their learning of the adopted banking ICT systems before undergoing training,* was not rejected for the remaining factors, namely the motivation, language used, graphics, computer anxiety, social support, and reward and recognition.

6.3.5 Statistical differences between the categories defined for each demographic variable with regard to the identified factors for each respondent group

The researcher decided to study the differences in the various categories of the demographic variables for each respondent group in order to reveal a more in-depth understanding of the role played by these demographic variables. This would allow optimisation of strategies; interventions and initiatives planned taking these results into account.

6.3.5.1 Gender

The t-test results indicated that there was a statistical significant difference, at the 5% level of significance, between the male and female tellers and customer care consultants with respect to the learning culture and appropriate organisational security management factors. These findings, based on the mean values, meant that males have higher levels of agreement than female tellers and customer care consultants with regard to the following: there was continuous learning; they were guided to define their ICT learning objectives; they were allowed to make mistakes when learning the adopted ICT systems; there were a lot of opportunities that supported their learning of the adopted ICT

systems; and they were provided with a variety of ICT learning programmes to bridge their ICT skills and knowledge gaps. The findings also implied that male tellers and customer care consultants agreed more than their female colleagues that they were afraid that transaction errors might occur when they used the adopted ICT systems and also that their job account could be hacked.

The Mann-Whitney U test results indicated that there were statistically significant differences, at the 5% level of significance, between the male and female line managers with respect to the personal insecurity and the supportive learning strategies subscales tested. Furthermore, male line managers agreed more than female line managers regarding the personal insecurity factor that affect the learning of the majority of their team of employees, while female line managers agreed more than male line managers regarding the supportive learning strategies factor to optimally address factors that support learning of the majority of their team of employees.

The aforementioned results on the statistical differences between males and females with regard to the identified factors namely organisational learning culture and ICT systems security confirmed the results found by OECD (2017). These authors (OECD 2017) found that there were gender gaps in general ICT skills and the use of software at work tended to be quite small worldwide with more males than female employees were being cognisant that a learning culture and ICT systems security affected their learning at the workplaces. However, Maleka (2012) disagreed with the results from this study as well as results found by OECD (2017) by arguing that there was no gender difference when it came to the learning of the adopted ICT systems in a developing country such as South Africa.

6.3.5.2 Age

The Kruskal Wallis results indicated that there were statistical significant differences, at the 5% level of significance, between the different age categories of the tellers and customer care consultants with respect to the organisational time management, graphics,

computer anxiety, learning culture and job characteristics factors. The tellers and customer care consultants between 41 and 50 years of age had higher mean ranks than those in the other age groups on these factors: the organisational time management, the graphics, the computer anxiety, the learning culture and the job characteristics which indicate that they tend to agree more on the items related to these factors than the younger (less than 41 years) age groups. The Kruskal Wallis test results indicated that no statistical significant difference existed, at the 5% level of significance, between the different age categories of the line managers with respect to all the factors tested.

The findings meant that tellers and customer care consultants between 41 and 50 years of age agreed more with the identified factors named above to affect their learning of the adopted ICT systems at the workplace than their counterparts in other age groups. Their line managers agreed that regardless of the age groups of a majority of their team of employees, all identified factors affected the learning of the adopted ICT systems at the workplace amongst a team of their employees. The results from literature (Lee, CZaja & Shant 2009) had confirmed that age discrimination due to age gaps among employees and a lack of technology skills were being experienced at the workplace learning, with the older employees expressed a desire to receive additional training on technology and a preference for classroom training (Lee, CZaja & Shant 2009).

6.3.5.3 Highest level of education

The results by applying the Kruskal Wallis tests further indicated that there were statistical significant differences, at the 5% level of significance, between the different levels of education among the tellers and customer care consultants with respect to graphics and computer anxiety variables. The tellers and customer care consultants with diploma had significantly higher mean ranks in the organisational time management, the graphics and the computer anxiety factors than their counterparts with their highest levels of education as bachelors, masters and doctoral degrees. This indicates that the tellers and customer care consultants with diploma as their highest level of education tend to agree more regarding these factors. The results of the Kruskal Wallis indicated that no

statistically significant difference existed, at the 5% level of significance, between the different levels of education amongst the line managers (LM) with respect to all the factors tested.

The findings in this study concurred with the results found by (Graham & Nafukho 2007; Shah, Hassan & Embi 2012) that employees with low level of education would agree more than their counterparts with qualification at degree level that ICT systems graphics and computer anxiety were the key predictors of their workplace learning success (Graham & Nafukho 2007). The results found by Shah, Hassan and Embi (2012) further indicated that computer knowledge, computer skills and acceptance of technology had significant negative relationship on computer anxiety. The results suggested that computer users were not anti-technology as they needed to use them in the workplace to perform various job activities (Shah, Hassan and Embi 2012). However, employed computer users were encouraged to manage their time wisely and give priority to performing job tasks than personal activities.

6.3.5.4 Highest level of training in ICT

It was also reported that the Kruskal Wallis test results showed statistical significant differences, at 5% level of significance, between the different levels of training in ICT amongst the tellers and customer care consultants with respect to the motivation, organisational time management, attitude, quality of information, quality of ICT, ease of use, language used, graphics, personal insecurity, computer anxiety, learning culture, social support and reward and recognition factors. The interpretation of the results was that the tellers and customer care consultants with a degree in ICT had a higher mean rank than counterparts without a degree in ICT and they perceived the organisational time management, language used, graphics, personal insecurity, and learning culture factors to have high impact on their learning of the adopted banking ICT systems. For the line managers, the Kruskal Wallis test results indicated that there were statistical significant differences, at the 5% level of significance, between the different levels of training in ICT of the line managers with respect to graphics and learning culture factors.

The line managers with a degree as the highest training in ICT had significantly higher mean ranks in the graphics and the learning culture factors than their counterparts with other level of training in ICT.

The aforementioned results were in agreement with the findings by Achim and Kassim (2015) that employees who did not upgrade their knowledge of computer usage, would fear and become afraid of using the computer application. When this situation happened, they easily thought that every step would lead to mistakes in using the computer because they did not have sufficient knowledge about the latest computer application (Achim & Kassim 2015). Thus Aziz and Selamat (2016) found that training design and training reputation could significantly affect the motivation to learn and training effectiveness where the motivation to learn earned by the background training in ICT played the role of a mediator.

6.3.5.5 Job positions in the organisation

The results of the t-tests conducted showed no statistical significant difference at 5% level of significance, between the two job positions (the tellers as one job position group and the customer care consultants as the second job position group) with respect to all the factors tested. This means that the two job positions considered had no effect on the learning of the banking ICT systems. These results concurred with the results that suggested that challenging workplaces, workplaces introducing various types of innovative products, technologies and production processes, support workers' skills developments through their positive impact on the degree of job complexity. Increasing the degree of job complexity has positive and robust effects on the degree of skill development and so does an increase in work experience (tenure). The analysis stresses the importance of on-the-job learning contextual workplace characteristics for adult workers' skills development (Russo 2015).

6.3.5.6 Employment status

The results of the Mann-Whitney U test showed the existence of a statistical significant difference at 5% level of significance, between the two employment status of the tellers and customer care consultants with respect to motivation, quality of information, quality of ICT, ease of use, usefulness, language used, appropriate organisational security management, social support, reward and recognition and job characteristics factors. The tellers and customer care consultants who were permanently employed showed significantly higher mean ranks for their employment status on the aforementioned factors than those who were temporary employed.

The Mann Whitney U test for the employment status could not be done for the line managers as there were only two people on contract.

The findings implied that the tellers and customer care consultants on permanent employment status had higher perception than those on temporary employment status with respect to the identified factors named above. These findings were in agreement with the results found by Rigotti *et al*. (2009) that employees on permanent employment status appeared to agree more with these factors than their colleagues who were in temporary employment status because the latter group experienced higher job insecurity and less promises on future employment prospects than the former group. These employment prospects were more predictive of the attitudes of permanent employees to the learning of the adopted ICT systems than of the temporary employees (Rigotti *et al*. 2009).

6.3.5.7 Period of working experience with banking ICT systems

The Kruskal Wallis test results also indicated that there were statistical significant differences, at the 5% level of significance, between the different period of working experience with banking ICT among the tellers and customer care consultants with respect to the organisational time management, quality of information, quality of ICT

systems, ease of use, language used, graphics, computer anxiety, learning culture, reward and recognition and job characteristics factors. It was also found that the tellers and customer care consultants with 9 years or more working experience with banking ICT systems had significantly higher mean ranks in these factors than tellers and customer care consultants with 0 to 2 years, 3 to 5 years and 6 to 8 years working experience with the banking ICT systems. These results implied that the tellers and customer care consultants with 9 years or more working experience with banking ICT systems perceived the organisational time management, the ease of use, the graphics, the computer anxiety and the learning culture factors to have had high impact on their learning of the adopted banking ICT systems.

The Kruskal Wallis test results indicated that there was a statistical significant difference, at the 5% level of significance, between the different period of working experience with banking ICT among the line managers with respect to the motivation, self-efficacy, quality of information, job enhancement, language used, graphics, appropriate organisational security management, learning culture, social support, reward and recognition, expected job characteristics and freedom to be innovative factors. The results revealed that the line managers with 9 or more years of the working experience with the banking ICT systems had significantly higher mean ranks in these factors than line managers with 0 to 2 years, 3 to 5 years and 6 to 8 years working experience with the banking ICT systems. These results suggested that line managers with 9 or more years of working experience with the banking ICT systems considered the appropriate organisational security management, the social support, the expected job characteristics and the freedom to be innovative to have had a high impact on the learning of the banking ICT systems among their team of employees.

The interpretation of the results were that tellers and customer care consultants with over 9 years of service and their line managers agreed more with the mentioned factors to support learning of the adopted ICT systems than their counterparts with shorter years of service. These results were in contrary to the results found by Graham and Nafukho

(2007) that the length of employment was not a major predictor of workplace learning factors.

6.3.5.8 Number of training workshops, seminars, conferences or programmes attended

The results from the Kruskal Wallis tests showed that the tellers and customer care consultants who had attended between 3 and 5 training workshops or seminars or conferences had significantly higher mean ranks in the motivation, ease of use, computer anxiety and learning culture than the tellers and customer care consultants who had attended 0 to 2 training workshops or seminars or conferences. Tellers and customer care consultants who had attended 6 or more training workshops or seminars or conferences had significantly higher mean ranks in the self-efficacy, individual time management, personal insecurity and reward and recognition than the tellers and customer care consultants who had attended 0 to 2 and 3 to 5 training workshops or seminars or conferences. The results meant that the tellers and customer care consultants who had attended 3 to 5 training workshops or seminars or conferences perceived the ease of use and the learning culture factors to have had a high impact on their learning of the adopted banking ICT systems. Similarly, the tellers and customer care consultants who had attended 6 or more training workshops or seminars or conferences and had a mean rank above 95 viewed the individual time management and personal insecurity factors to have had a high impact on their learning of the adopted banking ICT systems.

The results also showed that the line managers who had attended 3 to 5 training workshops or seminars or conferences perceived the quality of information, the ease of use and the job enhancement factors to have had a high impact on their learning of the adopted banking ICT systems among their team of employees. It was also noted that the line managers who had attended 6 and more training workshops or seminars or conferences viewed the reward and recognition factor to have had a high impact on the learning of the adopted ICT systems among their team of employees.

As stated previously, Aziz and Selamat (2016) found that the number of training designs and training reputation could significantly affect the motivation to learn and training effectiveness where the motivation to learn plays the role of a mediator. Also, the familiarity with training content due to more previous training programs attended can affect training effectiveness (Aziz & Selamat 2016).

Therefore, the results of the inferential statistical tests conducted in this study provided supportive evidence of the 6th and 7th research objectives as well as confirmed the alternative research hypotheses partially.

Ha4: *There are statistically significant differences between the categories defined for each demographic variable with regard to each of the individual employee, organisational and ICT systems factors for each respondent group* as shown in sections 6.3.5.1, 6.3.5.2, 6.3.5.4, 6.3.5.6, 6.3.5.7 and 6.3.5.8. This hypothesis was not rejected for demographic variables, namely gender, age, highest level of training in ICT, employment status, period of working with ICT systems and number of training workshops or seminars or programmes for both respondent groups. The demographical variables for which the null hypothesis (no statistical significant difference) was not rejected regarding the specified factors above in section 6.3.5.5 do not support the research hypothesis stated. This hypothesis was not rejected for the demographic variable named the highest level of education for line managers and job positions in organisation for tellers and customer care consultants.

Ha5: *There are statistically significant differences between the categories defined for each demographic variable with regard to each of the strategy factors for each respondent group* as shown in sections 6.3.5.1, 6.3.5.2, 6.3.5.4, 6.3.5.6, 6.3.5.7 and 6.3.5.8. This latter hypothesis was also not rejected. This hypothesis was not rejected for demographic variables, namely gender, age, highest level of training in ICT, employment status, period of working with ICT systems and number of training workshops or seminars or programmes for both respondent groups. The demographical variables for

which the null hypothesis (no statistical significant difference) was not rejected regarding the specified factors above in section 6.3.5.5 do not support the research hypothesis stated. This hypothesis was not rejected for the demographic variable named the highest level of education for line managers and job positions in organisation for tellers and customer care consultants.

6.4 RECOMMENDATIONS

In the two questionnaires sent to the two target respondent groups, the researcher requested them to indicate their opinions regarding their level of agreement (on a 5 point Likert type scale) regarding several statements describing the strategies that they perceive can address the factors that affect the learning of the adopted retail banking ICT systems.

The researcher applied descriptive statistics, factor analysis and inferential statistics to process the raw data and further used results of analysis on strategies to make suggestions on strategy factors that can optimally address factors that support learning of the adopted banking ICT systems before undergoing training. The recommended strategies were synonymous to the favourable opinions of both respondent groups, namely group 1 and group 2 that deemed to have scored means greater than 4. The strategies were split into two factors, namely supportive learning strategies and directive learning strategies.

From the questionnaire that targeted the tellers and customer care consultants, higher mean scores were obtained for the strategy factor named the directive learning strategies than supportive learning strategies. This showed that a majority of the tellers and customer care consultants expected their retail banking organisation to: align employees' learning needs to the fulfilment of their job obligations; regularly evaluate the effectiveness of the adopted ICT systems; and ensure that effective security measures exist to prevent unauthorised access to the adopted ICT systems.

From the questionnaire that targeted the line managers, higher mean scores were obtained for the strategy factor called the supportive learning strategies than the directive learning strategies. This implied that a majority of the line managers felt that their retail banking organisation should: offer mentorship programmes to motivate a team of their employees to learn the adopted ICT systems; allow more learning time for the adopted systems during work hours; promote the benefits of the adopted ICT systems in order to create positive attitudes amongst the employees; identify the employees' learning needs when defining the organisational objectives by conducting a skills gap analysis programme, then utilising the findings to form part of the organisational objectives and priorities among other things.

The high mean scores from the descriptive statistics obtained from the tellers and customer care consultants meant that they felt more strongly than the line managers regarding the supportive learning strategies and directive learning strategies. However, both the tellers and the customer care consultants and the line managers were in agreement with the statements in the strategy factors that can optimally address the factors that support learning of the adopted banking ICT systems before undergoing training.

6.4.1 Supportive learning strategies

The analysis of results supported by the relevant literature showed that a majority of the target respondents were in agreement that several supportive learning strategies that can optimally address the factors that support learning of the adopted banking ICT systems can me recommended. The various branches of the five retail banking organisations should:

- Offer mentorship programmes to motivate retail banking employees to learn the adopted ICT systems. This means that the banks should assign to their employees, mentors who are experts or specialists in the adopted ICT systems. The employee-mentor assignment would encourage the employees to develop a continuous learning

workplace practice. This recommendation is in agreement with the research findings by Dymock (1999) and Billet (2010) that indicated an improvement of mentees general understanding of the company's operations and in dealing with practical management issues through mentorship programme. The extent of that learning appeared to be influenced by the degree to which the relationship had developed on the basis of openness and trust.

- Allow more learning time for the adopted systems during work hours. The banking organisation should allocate an official time reserved for the employees' workplace learning. The recommendation aligns with the Marsick and Watkins (2015) views that the banking employers should allow more time within the official business hours for their employees to undertake the business-related informal learning in order to achieve high business productivity.
- Promote the usefulness (such as the employees' job performance enhancement and specific learning goals achievement) of the adopted ICT systems in order to create positive attitudes amongst the employees. In other words, the employers should conscientise the employees about the pivotal role the adopted ICT systems play in enhancing their job performance and meeting specific learning goals. This is in line with the World Bank Group (WBG 2015) suggestions that some banking employees might not be able to adapt to technological change quickly enough for a range of reasons. For instance, given the concerns about the risk of concentration of the benefits of technological advancement in the hands of a few- evidenced by labours falling share of income, it might be necessary for the banking organisations to engage meaningfully across civil society, governments and businesses to ensure that banking employees and businesses both benefit from the abundance that will be created through higher productivity and resulting growth (WBG 2015).
- Identify the employees' learning needs when defining the organisational objectives by conducting skills gap analysis programme, then utilising the findings to form part of the organisational objectives and priorities. Bika (2018) explains a skills gap as the difference between skills that employers need and skills their workforce offer. The researcher highlighted two levels of performing skills gap analysis. The first one is at an individual level, in which the skills a job requires are identified and compared to an

employee's actual skill level. The second one is at the team/company level, in which employees skills are determined for suitability in working on the upcoming project or if external skills might be needed. This recommendation about skills gap analysis would help the banking organisations target the employee training programs that focus on developing the skills needed (Bika 2018).

- Encourage both managerial and peer coaching for effective job performance. A social support framework should be developed where peers and managers coach their colleagues and every employee feels voluntarily involved in a learning teamwork. This recommendation is in line with suggestion by Froehlich *et al.* (2014) that individuals, teams and the organisation acquire new or improve existing skills, competence and performance through the learning modes like having focused discussions with peers, receiving coaching from managers and facilitative processes.
- Recognise and reward employees' informal learning through a formal assessment and evaluation process. Employers should provide positive appraisals and incentivise the achievement of their employees when the latter meets set informal learning goals. This recommendation concurs with assertion by Murphy (2015) that employees appreciate concrete and tangible benefits, rewards or incentives that organisations offer to them when they participate in learning courses.
- Organise regular ICT training programmes to bridge the employees' knowledge and skills gaps in the adopted ICT systems. This recommendation will assist the banking employees facing a transition or those workers that might find their jobs at risk of digitisation or already digitised as suggested by the World Bank Group (WBG 2015). They might need a specific focus on those employees at greatest risk of being left behind in the digital economy (WBG 2015).
- Ensure that the designs of ICT learning programmes incorporate learners' competency development needs. As asserted by the Commonwealth of Australia (CoA 2010), the banking employers should ensure their employees develop competence in using ICT for tasks associated with information access and management, problem solving, decision making, communicating, creative expression, and empirical reasoning.

6.4.2 Directive learning strategies

Under the directive learning strategies suggested by a majority of respondents and from the analysis of results of this study, several recommendations can be made. The retail banking organisations need to:

- Align employees' learning needs to the fulfilment of their job obligations. The learning needs identified should be prioritised with regard to the associated job characteristics and description. As pointed out by Andriotis (2017) when the strategic vision and mission are cascaded down to training and development goals, banking employees are able to see them operationalised. Furthermore Andriotis (2017) believed that when training programs are designed and developed toward business strategy, employees are able to better understand how they personally contribute to the achievement of business objectives. This understanding leads to their buy-in and reduces their resistance to training. This is why every training program should be practical and relevant to the roles and responsibilities of employees, and directly assist them in achieving their performance goals.
- Regularly evaluate the effectiveness of the adopted ICT systems. A workplace ICT system is only as effective as the regularity of the review. Retail banking organisations should ensure a constant evaluation of the system to assess if it is still effective in meeting the employees 'performance goals. This suggestion concurs with Swaratsingh (2015) and Bresnahan and Yin (2017) who believed that a technological adoption for enhancing workplace productivity and competitiveness should continuously undergo a regular review to assess its effectiveness against the employees' job performance expectations.
- Ensure that effective security measures exist to prevent unauthorised access to the adopted ICT systems. Appropriate organisational security management should be devised. Sarapenina (2014) advocated for the use of strong passwords, antivirus software, the keeping of software updates, the verifying of software security, the building of personal firewall and scanning devices as some of the robust methods of

ensuring effective security measures against unauthorised access to the adopted banking ICT systems.

In section 6.4, recommendations on strategies that can optimally address factors that support learning of the retail banking ICT systems has been outlined. The next section provides study reflections.

6.5 REFLECTIONS ON THE STUDY

To be able to reflect on the value of the study, it is necessary to consider the contribution of the research and to specify its limitations. The limitations stimulate an awareness of the need for further research.

6.5.1 Contributions of the study

The study contributed to the literature study, methodology and practical application of the individual employee, organisational, ICT systems and strategy factors that affect employees' learning of the adopted banking ICT systems before undergoing training.

Literature study: The theoretical research gap in the literature was about the need for analysing and synthesising previous studies on the main individual employee, organisational and ICT systems factors that affect the employees' learning of the adopted workplace ICT systems before attending training programmes. Such analysis of individual employee, organisational and ICT systems factors was significant to the understanding of effective factors that support workplace learning of the adopted ICT systems.

Methodological: In Chapter 3, the researcher designed two new questionnaires (one for the tellers and customer care consultants and the other for the line managers of the retail banks) to be used as the data collection instruments. This was as a result of a lack of

relevant questionnaires in the literature that could be used to collect field data about factors that affect employees' learning of the retail banking ICT systems before attending training programmes.

Practical: The empirical findings from the descriptive and inferential statistics of this research study would contribute to the academic body of knowledge in the field of HRD in banking ICT systems. The findings and recommendations of the study are envisaged to assist the banking tellers, customer care consultants and line managers to identify and acknowledge the importance of the specific factors that affect their learning of banking ICT systems before attending formal training. These findings and recommendations would also assist retail banking employees from other departments in the bank to identify and analyse the factors that support their learning of the adopted banking ICT systems before learning programmes are organised. The departments in the bank that may benefit from the findings of this study include the Customer Service, Cash, Accounts, Clearing, Human Resource, Loans and Advances, ICT as well as Sales and Marketing.

The recommendations can also be incorporated in the strategies suggested by the Kenyan Institute of Bankers (KIB) to support employee learning of the adopted banking ICT systems. KIB is a professional association for banks and financial institutions in Kenya that is mandated to promote professional education through the coordination and provision of advanced knowledge and qualification in the banking and financial services sector.

The findings and recommendations of this study may succeed in promoting the employees' learning of the adopted ICT systems in the workplace. This could assist the banking industry to achieve its ICT adoption objectives (practical significance). The findings and recommendations could also be applied to similar work environments (theoretical significance).

6.5.2 Limitations of the study

The study focused on the western region of Kenya rather than the whole country because of realistic factors consideration such as time, financial limitations and the very large population (N = 7050) countrywide. The researcher ensured that the selected sample was large enough to offer a good representation of the entire target population (tellers and customer care consultants as one group and line managers as a second group) and allow for drawing more accurate conclusions and generalisation regarding the factors that support the employees' learning of the adopted workplace ICT systems but acknowledge that it should be tested across the country to confirm the results found in this study.

The researcher administered the paper-based questionnaires through the branch managers as the gate keepers who were to request the respondents to collect the questionnaires in special letter boxes placed in the branches. Such limitation exposed the data gathering period to unforeseen delays. This limitation was only minimised by requesting the branch managers to place the research materials at a specific location where the respondents can freely pick and return the completed questionnaires.

6.6 SUGGESTIONS FOR FUTURE RESEARCH

The following suggestions were made for future research.

- A future study should focus on a larger geographical area with similar characteristics such as: the geographical inaccessibility; high cost of banking service provisions; lack of financial education and understanding among a majority of potential customers; limited access to the ICT infrastructure and a low level of ICT skills among the employees In this study only one region out of five regions in Kenya was selected due to time and financial constraints.
- The future research should investigate how the identified factors support employees' learning at the workplace in developing economies. This study only

determined the extent to which the identified and empirically investigated factors support employees' learning of the adopted retail banking ICT systems before undergoing training.

- Due to the logistical limitations of the paper-based questionnaires, the researcher suggested that a future study should make use of electronic communication channels to administer the questionnaires directly to a larger sample of target respondents.

- Investigation of the impact of the identified factors (as the independent variables) on the learning (as dependent variables) at the training workshops should be explored. Such an investigation would assist the human resource development practitioners in assessing the success of the training programmes they design.

- The statistically significant differences found between the categories of the demographic variables show that further study needs to investigate the potential reasons for these differences. This study only covered the effects of demographic variables on the perceptions of target respondents regarding the identified factors.

- The future research should also investigate factors that are required to develop Human Resource Development (HRD) framework for learning Kenyan retail banking Information and Communication Technology systems. The suggested supportive and directive learning strategies in this study could be leveraged to design an HRD framework for the employees' learning of the adopted retail banking ICT systems in Kenya.

6.7 CONCLUSION

In this chapter, the answers to the posit research questions were summarised. The conclusions regarding the most important study findings were provided. These conclusions were discussed in terms of the outcomes from the literature study and the

empirical study results analyses. The study found that a majority of the alternate hypotheses tested were not rejected and all the outlined study objectives were achieved.

This chapter also outlined the recommendations from the study regarding strategies suggested by the target groups to optimally address the individual employee, organisational and ICT systems factors in the Kenyan retail banks that do support their learning of the adopted banking ICT systems before undergoing training. The chapter made reflections on the study by unpacking the contributions and the limitations of the study. The chapter finally concluded its discussion by providing suggestions that point to the future research work.

LIST OF REFERENCES

Abbott, ML & McKinney, J. 2013. *Understanding and applying research design*. Hoboken, NJ: Wiley.

Abeka, SO. 2012. Perceived usefulness, ease of use, organisational and bank support as determinants of adoption of internet banking in East Africa, *International Journal of Academic Research in Business and Social Sciences* 2(10): 97-112.

Abiud, MM & Okiko, L. 2012. The nexus between organisational culture and top management support as an influence to the adoption of ICT in the Rwandan commercial banks, *International Journal of Research in Commerce and Management* 3(8): 14-19.

Abukhzam, M & Lee, A. 2010. Factors affecting bank staff attitude towards e-banking adoption in Libya, *Electronic Journal on Information Systems in Developing Countries* 42(2):1-15.

Achim, N. & Kassim, AL. 2015. Computer usage: the impact of computer anxiety and self-efficiency, *Procedia-Social and Behavioural Sciences* 172(2015):701-708.

Adediwura, AA. 2012. Effect of peer and self-assessment on male and female students' self-efficacy and self-autonomy in the learning of mathematics, *Gender and Behaviour* 10(1): 4492-4508.

Aderibigbe, SA & Ajasa, FA. 2013. Peer coaching as an institutionalised tool for professional development: The perceptions of tutors in a Nigerian college, *Journal of Workplace Learning* 25(2): 125-140.

Agboola, A. 2008. ICT in banking operations in Nigeria: Evaluation of recent experiences, *Journal of Internet Banking and Commerce* 13(1): 1-15.

Ajzen, I & Fishbein, M. 1980. *Understanding attitudes and predicting social behaviour*. Englewood Cliffs, NJ: Prentice Hall.

Akbari, J., Akbari, R., Shakerian, M & Mahaki, B. 2017. Job demand-control and job stress at work: a cross-sectional study among prision staff, *Journal of Education Health Promotio*n 6(15): 1-15.

Akgun, AE, Lynn, GS., Keskin, H & Dogan, D. 2014. Team learning in IT implementation projects: antecedents and consequences, *International Journal of Information Management* 34(2014): 37-47.

Al-Ajam, AS and Nor, KM. 2015. Challenges of adoption of internet banking service in Yemen, *International Journal of Bank Marketing* 33(2): 178-194.

Alkhattabi, M, Neagu, D & Cullen, A. 2011. Assessing information quality of e-learning systems: a web mining approach, *Computers in Human Behaviour* 27(2): 862-873.

AllBusiness (AB). 2014. *Ten tips on improving employee motivation* [Online]. Available from:http://www.allbusiness.com/motivate-your-employees/16567613-11.html. [accessed 12 June 2014].

Alqurashi, E. 2016. Self-efficacy in online learning environments: a literature review, *Contemporary Issues in Education Research* 9(1): 45-52.

Al-Smadi, M. 2012. Factors affecting the adoption of electronic banking: an analysis of the perspectives of banks' customers, *International Journal of Business & Social Sciences* 3(17): 294-309.

Anderson, T. 2013. *Research paradigms: Ontology's, epistemologies & methods* [Online]. Available from: www.slideshare.net/elearnCenter/research-methods-uoc2013 [accessed 17 July 2014].

Andriotis, N. 2017. *How to align your training with your business objectives in six easy steps* [Online]. Available from: https://www.efrontlearning.com/blog/2017/ [accessed 10 July 2018].

Antwi, KB., Analoui, F & Cusworth, JW. 2007. Human resource development challenges facing decentralised local governments in Africa: empirical evidence from Ghana. In proceedings of Leadership, Learning, Institutes and Public Service, Conference, Accra, Ghana, Nov. 7-9, 2007.

Arendt, L. 2008. Barriers to ICT adoption in SMEs: how to bridge the digital divide? *Journal of Systems and Information Technology* 10(2): 93-108.

Arigbabu, AA. 2009. Examining psychometric characteristics of the computer anxiety scale, *Computers in Human Behaviour* 25(2009): 229-232.

Asaad, CT. 2015. Financial literacy and financial behaviour: assessing knowledge and confidence, *Financial Services Review* 24(2015): 101-117.

Ashrafi, R & Murtaza, M. 2008. Use and impact of ICT on SMEs in Oman, *Electronic Journal Information Systems Evaluation* 11(3): 125-138.

Awases, MH. 2006. *Factors affecting performance of professional nurses in Namibia*. PhD in Health Studies: University of South Africa, Pretoria.

Aziz, SFA & Selamat, MN. 2016. Stimulating workplace learning through training characteristics and motivation to learn, *Journal Pengurusan* 48(2016):1-18.

Babbie, E. 2013. *The practice of social research*. 13th edition. Wadsworth: Cengage learning Cengage.

Baharim, SB. 2009. *The influence of knowledge sharing on motivation to transfer training: A Malaysian public sector context*. PhD Thesis in Management: Victoria University, Melbourne, Australia.

Baldwin, TT & Ford, JK. 1988. Transfer of training: a review and directions for future research, *Personal Psychology* 41(1988): 63-105

Ball, S. 2012. *The complete guide to writing your dissertation: advice, techniques and insights to help you enhance your grades.* Oxford: How To Books.

Ballentine, A., McKenzie, N., Wysocki, A & Kepner, K. 2012. *The role of monetary and non-monetary incentives in the workplace as influenced by career stage*. Food and Resource Management, Florida Cooperative Extension: University of Florida.

Bandura, A. 1997. *Self-efficacy: The exercise of control.* New York, NY: Worth Publishers.

Barnard, S. 2013. Barriers to employee transfer of learning. MPhil. in Human Resource Development. University of Johannesburg, Johannesburg.

Bauer, J., Rehrl, M & Harteis, C. 2007. Measurement of learning culture: a motivational approach, In Graber, H and Palmen, T (Eds), *Learning at the Workplace-New Developments,* Finish Educational Research Association: Turku: 21-50.

Bayo-Mariones, A., & Lera-Lopez, F. 2007. A firm-level analysis of determinants of ICT adoption in Spain, *Elsevier-Technovation* 27(2007): 352-366.

Becker, HS. 1996. “The epistemology of qualitative research”. In: Jessor, R., Collby, A & Schweder, R. eds. 1996. *Essays on ethnography and human development.* Chicago: University of Chicago Press.

Benozzo, A & Colley, H. 2012. Emotion and learning in the workplace: critical perspectives, *Journal of Workplace Learning* 24(5): 304-316.

Berglund, L & Andersson, P. 2012. Recognition of knowledge and skills at work: in whose interests? *Journal of Workplace Learning* 24(2): 73-84.

Berry, A. 2006. Banks, SMEs and accountants: an international study of SMEs' banking relationships, *Research report of Certified Accountants Educational Trust*, London.

Bhuasiri, W., Xaymoungkhoun, O., Zo, H., Rho, JJ & Ciganek, AP. 2012. Critical success factors for e-learning in developing countries: A comparative analysis between ICT experts and faculty, *Computers & Education* 58 (2012): 843-855.

Biggam, J. 2011. *Succeeding with your master's dissertation: a step-by-step handbook.* 2nd edition. Maidenhead: Open University Press.

Bika, N. 2018. *How to conduct a skills gap analysis: Employee performance* [Online]. Available from: https://resources.workable.com/tutorial/skills-gap-analysis/ [accessed 10 July 2018].

Billet, S & Choy, S. 2013. Learning through work: emerging perspectives and new challenges, *Journal of Workplace Learning* 25(4): 264-276.

Billet, S. 2006. "Work, subjectivity and learning". In: Billet, S., Fenwick, T & Somerville, M. eds. 2006. *Work, Subjectivity and Learning: Understanding Learning through Working Life.* Dordrecht:Springer.

Billet, S. 2009. Personal epistemologies, work and learning, *Educational Research Review* 4(3): 210-219.

Billet, S. 2010. Lifelong learning and self: work, subjectivity and learning, *Studies in Continuing Education* 32(1): 1-16.

Bordens, KS. & Abbott, B. 2014. *Research design and methods.* (9th ed.), New York: McGraw Hill.

Bresnahan, T & Yin, PL. 2017. Adoption of new information and communications technologies in the workplace today, *The National Bureau of Economic Research* (2017):95-124.

Broad, ML. & Newstrom, JW. 1992. *Transfer of training: Action-packed strategies to ensure high payoff from training investments*. Addison-Wesley: Reading, MA.

Brown, IT. 2002. Individual and technological factors affecting perceived ease of use of web-based learning technologies in a developing country, *The Electronic Journal on Information Systems in Developing Countries* 9(5): 1-15.

Brown, S. 2015. *Measures of shape: Skewness and kurtosis* [Online]. Available from: http://brownmath.com/stat/shape.htm. [Accessed: 2 September 2015].

Bryman, A. 2012. *Social research methods*. 4th edition. Oxford: Oxford University Press.

Buchanan, S., Harlan, MA, Bruce, C., & Edwards, S. 2016. Inquiry based learning models, information, literacy, and student engagement: A literature review, *School Libraries Worldwide* 22(2): 23-39.

Bucic, T., Robinson, L & Ramburuth, R. 2010. Effects of team leadership style on team learning, *Journal of Workplace Learning* 22(4): 228-248.

Burns, N & Grove, SK. 2003. *Understanding nursing research*. 3rd ed. Philadelphia, W.B: Saunders.

Buys, NA. 2012. The role of management in effective knowledge and skills transfer. PhD thesis in Leadership Performance and Change. University of Johannesburg, Johannesburg.

Cacciattolo, K. 2015. Defining workplace learning, *European Scientific Journal* 1 (May 2015): 243-250.

Cantley, LF., Sherman, BT., Slade, MD., Galusha, D & Cullen, MR. 2015. Expert ratings of job demand and job control as predictors of injury and musculoskeletal disorder risk in manufacturing cohort, *Occupational Environmental Medicine* 2015(0):1-8.

Caudill, JG. 2015. Employee motivations for workplace learning and the role of e-learning in the workplace, *Internet Learning* 4(2): 37-48.

CBK. 2012. *Payment Systems in Kenya: Central Bank of Kenya (KCB) annual financial report for the year 2012.* Nairobi: CBK.

CBK. 2016. *Performance and developments in the Kenyan banking sector for the quarter ended 31st March 2016.* Nairobi: CBK.

Central Bank of Kenya (CBK). 2014. *Commercial banks and mortgage finance institutions* [Online]. Available from: https://www.centralbank.go.ke/index.php/bank-supervision/commercial-banks-mortgage-finance-institutions [Accessed: 03 October 2014].

Chahal, H & Bakshi, P. 2015. Examining intellectual capital and competitive advantage relationships: role of innovation and organisational learning, *International Journal of Bank Marketing* 33(3): 376-399.

Chen, RJ. 2010. Investigating models for preservice teachers' use of technology to support student-centred learning, *Computers & Education* 55(1): 32-42.

Chen, HJ & Kao, CH. 2012. Empirical validation of the importance of employees' learning motivation for workplace e-learning in Taiwanese organisations, *Australasian Journal of Education Technology* 28(4): 580-598.

Chen, PS & Chih, JT. 2011. The relations between learner motivation and satisfaction with management training: an empirical study in Taiwan, *International Journal of Management* 28(1): 77-91.

Cheng, B., Wang, M., Yang, SJH., Kinshuk & Peng, J. 2011. Acceptance of competency-based workplace e-learning systems: effects of individual and peer learning support, *Computers & Education* 57(2011): 1317-1333.

Chiaburu, DS & Tekleab, AG. 2005. Individual and contextual influences on multiple dimensions of training effectiveness, *Journal of European Industrial Training* 29(8): 604-626.)

Chien, TC. 2012. Computer Self-efficacy and factors influencing e-learning effectiveness, *European Journal of Training and Development* 36(7): 670-686.

Chiu, CM., Chiu, CS & Chang, HC. 2007. Examining the integrated influence of fairness and quality on learners' satisfaction and web-based learning continuance intention, *Information Systems Journal* 17(3): 271-287.

Cho, HJ & Kim, JM. 2016. Administrative assistants' informal learning and related factors, *Journal of Workplace Learning* 28(7): 406-423.

Coetzee, M. & Schreuder, D. 2011. The relation between career anchors, emotional intelligence and employability satisfaction among workers in the service industry. *Southern Africa Business Review* 15(3): 76-96.

Coetzer, A. 2016. Employee perceptions of their workplaces as learning environments, *Journal of Workplace Learning* 19(7): 417-434.

Collis, J & Hussey, R. 2014. *Business research: a practical guide for undergraduate and postgraduate students*. 4th edition. Basingstoke: Palgrave Macmillan.

Commonwealth of Australia (CoA). 2010. *Information and communication technology (ICT) competence.* Australia: Australian Curriculum, Assessment and Reporting Authority (ACARA).

Conti, G. 2015. *Eight motivational theories and their implications for the classroom* [Online]. Available from: https://gianfrancoconti.wordpress.com/2015/07/27/eight-motivational-theories-and-their-implications-for-the-foreign-language-classroom/ [Accessed: 19 December 2017].

Cowman, M.C & McCarthy, A.M. 2016. The impact of demographic and situational factors on training transfer in a health care setting, *Irish Journal of Management* 35(2): 129-142.

Creswell, JW. 2014. *Research design: qualitative, quantitative and mixed methods approach*. 4th edition. London: Sage Publications Ltd.

Cromwell, SE & Kolb, JA. 2004. An examination of work-environment support factors affecting transfer of supervisory skills training to the workplace, *Human Resource Development Quarterly* 15(4):1-15.

CSFN. 2014. *Time management in the workplace: 5 quick tips for newbies in the workforce.* Career Success for Newbies [Online]. Available from: http://www.career-success-for-newbies.com/time-management-in-the-workplace.html. [Accessed: 12 June 2014].

Carnegie, D. 2013. *Employee engagement in the banking industry* [Online]. Available from: www.dalecarnegie.com [Accessed: 30 September 2016].

Dane, FC. 2011. *Evaluating research: methodology for people who need to read research.* SAGE: S. State University.

Dar, AT., Bashir,M., Ghazanfar, F., & Abrah, M. 2014. Mediating role of employee motivation in relationship to post-selection HRM practices and organisation performance, *International Review of Management and Marketing* 4(3): 224-238.

Davis, FD. 1989. Perceived usefulness, perceived ease of use and user acceptance of information technology, *MIS Quarterly* 13(1989): 319-340.

De Bruyn, AJ. 2014. A framework for best practices in the functioning of effective virtual teams in organisations within the technology industry of South Africa. DCom thesis. University of South Africa, Pretoria.

De Jonge, J., Bakker, A & Schaufel, W. 2003. *Psychosocial theories of work stress*. Bohn Stafleu van Loghum: Houten.

De Witte, H., Verhofstaat, E & Omey, E. 2005. *Testing Karasek's learning and strain hypothesis on young workers in their first job*. Working Paper No. 2005/326, Faculty of Economic and Business Studies, Ghent University, Ghent.

Deniz, MS & Alsaffar, AA. 2013. Assessing the validity and reliability of a questionnaire on dietary fibre-related knowledge in a Turkish student population, *Journal of Health, Population and Nutrition* 31(41): 497-503.

Denzin, NK & Lincoln, YS. 2011. *The SAGE handbook of qualitative research.* Thousand Oaks: Sage.

Department for Business, Innovation and Skills (DBIS). 2013. Motivation and barriers to learning for young people not in education, employment or training. *Department for Business Innovation and Skills Research Paper No. 87, United Kingdom (UK)*, pp 1-27 [Online]. Available from: https://www.gov.uk/government/organisations/ department-for-business-innovation-skills [Accessed: 29 April 2014].

Department of Human Resource Management (DHRM). 2013. *Guide to using the Harvard referencing method.* Pretoria: DHRM University of South Africa.

Diniz, E., Pozzebon, M., & Vargas, G. 2008. Banking technology to scale microfinance: The case of correspondent banking in Brazil, In R. Boland, M. Limayem and B. Pentland (eds.), *Proceedings of the 2008 International Conference on Information Systems*, Paris, France.

Dochy, F., Gijbels, D., Segers, M & Van den Bossche, P. 2011. *Theories of learning for the workplace. Building blocks for training and professional development programmes*, Routledge, London.

Dochy, F.J.R.C., Gijbels, D., Segers, M & Bossche, PVD. 2014. *Theories of learning for the workplace: building blocks for training and professional development programmes*. Routledge: March 2014.

Domenech-Betoret, F & Gomez-Artiga, A. 2014. The relationship among students' and teachers' thinking styles, psychological needs and motivation, *Learning and Individual Differences* 29(2014):89-97.

Doving, E & Martin-Rubio, I. 2012. Managing team learning in a Spanish commercial bank, *Journal of Workplace Learning (*2012):1-25.

Dubois, M, Bobillier-Chaumon, ME & Retour, D. 2011. The impact of development of customer online banking skills on customer advisor skills, *New Technology, Work and Employment* 22(2):156-173.

Dupas, P, Green, S, Keats, A & Robinson, J. 2012. Challenges in banking the rural poor: evidence from Kenya's Western Province, *International Growth Centre* 12 (0187):1-42.

Dymock, D. 1999. Blind date: a case study of mentoring as workplace learning, *Journal of Workplace Learning* 11(8):312-317.

Easterby-Smith, M., Thorpe, R & Jackson, P. 2008. *Management research.* 3rd Edition, London: SAGE Publications Ltd.

Edmondson, AC., Dillon, JR & Roloff, KS. 2007. Three perspectives on team learning, Academy *of Management Annals* 1(1): 269-314.

Essvale, 2010. *Career guidebook for IT in retail banking*. Essvale Corporation Limited: Essvale.

Evans, K., Hodkinson, P., Rainbird, H & Unwin, L. 2006. *Improving workplace learning.* London, NY: Routledge.

Fejes, A. & Andersson, P. 2009. Recognising prior learning: understanding relation among experience, learning and recognition from a constructivist perspective, *Vocations and Learning: Studies in Vocational and Professional Education* 2(1): 37-55.

Felstead, A., Fuller, A., Jewson, N & Unwin, L. 2009. *Improving working as learning*. London: Routledge.

Field, A. 2013. *Discovering statistics using IBM SPSS statistics*. London: Sage.

Filstad, C. 2004. How newcomers use role models in organisational socialisation, *Journal of Workplace Learning* 16(7): 396-409.

Fonchamnyo, DC. 2013. Customers' perception of e-banking adoption in Cameroon: an empirical assessment of an extended TAM, *International Journal of Economics and Finance* 5(1): 166-176.

Foxcroft, C., & Roodt, G. 2006. *An introduction to psychological assessment in the South African context*. Oxford University Press: Psychology.

Froehlich, D., Segers, M & Van den Bossche, P. 2014. Informal workplace learning in Austrian banks: the influence of learning approach, leadership style and organisational learning culture on manager's learning outcomes, *Human Resource Development Quarterly* 25(1): 29-57.

Fuller, A. & Unwin, L. 2011. Workplace learning and organisation, in Malloch, M., Cairns, L., Evans, K and O'Connor, B.N. (Eds), *The Sage Handbook of Workplace Learning*, Sage, London, pp. 46-59.

Garavan, TN, Carbery, R & Rock, A. 2012. Mapping talent development: definition, scope, and architecture, *European Journal of Training and Development 36*(1): 5-24.

Garavan, TN., Morley, M., Gunnigle, P & Collins, E. 2001. Human capital accumulation: the role of human resource development, *Journal of European Industrial Training* 25(2): 48-68.

Garcia-Morales, VJ., Llorens-Montes, F.J. & Verdu-Jover, AJ. 2007. Influence of personal mastery on organisational performance through organisational learning and innovation in large firms and SMEs, *Technovation* 27(9): 547-568.

George, D., & Mallery, P. 2010. *SPSS for Windows Step by Step*. Boston: Allyn & Bacon.

Gijbels, D., Raemdonck, I., Vervecken, D & Herck, J. 2012. Understnading work-related learning: the case of ICT workers, *Journal of Workplace Learning* 24(6): 2012.

Gikandi, JW & Bloor, C. 2010. Adoption and effectiveness of electronic banking in Kenya, *Electronic Commerce Research and Applications* 9(2010): 277-282.

Gneezy, U., Meier, S & Rey-Biel, P. 2011. When and why incentives (don't) work to modify behaviour, *Journal of Economic Perspectives* 25(4): 191-210.

Gold, J., Holden, R., Griggs, V & Kyriakidou, N. 2010. Workplace learning and knowledge management, in Gold, J., Holden, R., Iles, P., Steward, J and Beardwell, J. (Eds), *Human Resource Development*, Palgrave, London, pp. 193-215.

Gold, J., Thorpe, R & Mumford, A. 2010. *Leadership and management development*. 5th edition. CIPD: London.

Gray, DE. 2012. *Doing research in the real world*. 3rd edition. London: Sage Publications.

Graham, CM & Nafukho, F.M. 2007. Perception toward organisational learning culture in small-size business enterprises, *Journal of European Industrial Training* 31(2):127-144.

Groves, RM, Fowler, FJ, Couper, M.P., Lepkowski, JM., Singer, E & Tourangeau, R. 2013.*Survey methodology*. 3rd edition. Wiley: Wiley Series.

Gustavsson, M. 2009. Facilitating expansive learning in industrial work, *Journal of Workplace Learning* 19(7): 453-463.

Gustavsson, M. 2012. Learning and propensity for changing the job situation during downsizing, *Journal of Workplace Learning* 24(7/8): 497-508.

Hair, J., Black, W., Babin, B., & Anderson, R. 2010. *Multivariate data analysis.* Englewood Cliffs, NJ: Pearson Education.

Haller, A. 2014. *A descriptive study of student motivation in online distance learning environments.* MSc thesis, Department of Agricultural Education, The University of Arizona.

Hamann, DJ & Foster, NT. 2013. An exploration of job demands, job control, stress and attitudes in public, non-profit and for profit employees, *Review of Public Personal Administration* (2013):1-17.

Hamlin, B & Stewart, J. 2011. What is HRD? A definitional review and synthesis of the HRD domain, *Journal of European Industrial Training* 35(3): 199-220.

Harrison, K. 2013. Why employee recognition is so important: in *Creative ideas for employee recognition* (*Eds* Harrison, K) [Online]. Available from: www.cuttingedgepr.com.[Accessed: 04 June 2014].

Hatfield, D. 2007. Using a skills bank for work-based learning. *Education and Training* 49(3): 236-249.

Hartmann, EA & Light, B. 2010. *Promoting innovation by work-based learning*. Centre for Learning and Knowledge Management and Department of Information Management in Mechanical Engineering, Berlin, German.

Harwell, MR. 2011. Research design: qualitative, quantitative and mixed methods. In C. Conrad & RC Serlin (Eds.), *The Sage handbook for research in education: pursuing ideas as the keystone of exemplary inquiry,* 2nd edition. Thousand Oaks, CA: Sage.

Heilmann, P. 2007. High level competence: a tool for coping with organisational change, *Journal of European Industrial Training* 31(9): 727-741.

Ho, LA & Kuo, TH. 2010. How can one amplify the effect of e-learning? An examination of high-tech employees' computer attitude and flow experience, *Computers in Human Behaviour* 26(2010):23-31

Hodgers, MR. & Luthans, F. 1991. *International Management.* McGraw-Hill, Inc.

Hoffman, B.H. 2016. *Motivation for learning and performance.* Academic Press: Elsevier.

Hofstee, E. 2006. *Constructing a good dissertation: A practical guide to finishing masters, MBA or PhD on schedule*. Interpak Books: Pretoria.

Holt, L & Brockett, RG. 2012. Self-direction and factors influencing technology use: examining the relationships for the 21st century workplace, *Computers in Human Behaviour* 28(2012): 2075-2082.

Hussey, J & Hussey, R. 1997. *Business research: a practical guide for undergraduate and postgraduate students*. Palgrave: Basingstoke.

Ismail, S. 2015. *Self-esteem, graduateness skills and attributes, and career adaptability of young adults in the school-to-work transition phase*. MCOM in Human Resource Management, University of South Africa.

IUGG 2015. General assembly 2015, International Union of Geodesy Geophysics. *Prague, Czech Republic, Prague Congress Centre*, June 22- July 2, 2015 [Online]. Available from: http://www.iugg2015prague.com/list-of-developing-countries.htm [Accessed: 06 December 2016].

IVeri. 2014. *Accessing the unbanked: branchless banking in Africa* [Online]. Available from: http://www.iveri.com/papers/Accessing%20the%20Unbanked%20English.pdf [Accessed: 03 October 2014].

Jackson, SL. 2011. *Research methods*. 2nd ed. Wadsworth: Cengage learning.

Jahangir, N & Begum, N. 2008. The role of perceived usefulness, perceived ease of use, security and privacy, and customer attitude to engender customer adaptation in the context of electronic banking, *African Journal of Business Management* 2(1): 032-040.

Jaksic, M & Maric, M. 2015. The future of banking: the role of information technology, (Eds: Vestnik, B), *Banking sector at the crossroads: challenges for the future,* forthcoming [Online]. Available from: http://ssrn.com/abstract [Accessed: 20 February 2018].

Jarvensivu, A. & Koski, P. 2012. Combating learning, *Journal of Workplace learning* 24(1): 5-18.

Kalanda, K. 2012. *An investigation of ICT integration in the Lesotho secondary and high school science classroom*. PhD thesis in Mathematics, Science and Technology Education. University of South Africa, Pretoria.

Kamsaris, DP & Trochana, A. 2011. Organisational culture as a factor affecting human resources in the construction industry, *PM World Today* 13(4): 1-34.

Karasek, RA. 1979. Job demands, job decision latitude and mental strain: implications for job design, *Administrative Science Quarterly* 24(1979): 285-308.

Kayinamura, LF. 2011. The extent to which organisations in Zimbabwe are learning organisations: a case study of BancABC. Master's in Business Leadership. University of South Africa, Pretoria.

Kenya Institute of Bankers (KIB). 2014. *Details of the Kenya Institute of Bankers* [Online]. Available from: http://www.kib.co.ke/ [Accessed: 30 May 2014].

Kenya Law Report (KLR). 2010. *The constitution of Kenya* [Online]. Available from: https://www.kenyaembassy.com/pdfs/The%20Constitution%20of%20Kenya.pdf [Accessed: 02 October 2014].

Kerosuo, H & Toiviainen, H. 2011. Expansive learning across workplace boundaries, *International Journal of Education Research* 50(2011): 48-54.

Khalfan, A & Akbar, A. 2006. Adopting an implementation obstacle of e-banking services: An empirical investigation of the Omani banking industry, in *Electronic Business in Developing Countries: Opportunities and Challenges*, edited by S Kamel. Hershey: Idea Group: 283-302.

Khalid, K., Himan, H & Kumar, D. 2012. Get along with a quantitative research process, *International Journal of Research in Management* 2(2): 1-16.

Kim, H. Y. 2013. Statistical notes for clinical researchers: Assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry and Endodontics, 38*(1): 52-54.

Knoll. 2014. Managing workplace change: A people-based perspective. [Online]. Available from: www.knoll.com/media/892/536/WP_ManagingChange.pdf [Accessed: 18 June 2014].

Knowledge Jump. 2014. *Informal learning* [Online]. Available from: www.knowledgejump.com/learning/informal.html [Accessed: 29 May 2014].

Knowles, M. 1975. *Self-directed learning: a guide for learners and teachers*. New York, NY: Association Press.

Komarraju, M & Dial, C. 2014. Academic identity, self-efficacy, and self-esteem predict self-determined motivation and goals. *Learning and Individual Differences* 32(2014): 1-8.

Korpelainen, E. & Kira, M. 2010. Employees' choices in learning how to use information and communication technology systems at work: strategies and approaches, *International Journal of training and development* 14(1): 32-53.

Korte, R. 2012. Exploring the social foundations of HRD: a theoretical framework for research and practice, *Human Resource Development Review Journal* 11(1): 6-30.

Kulviwat, S., Bruner II, GC., & Neelankavil, JP. 2014. Self-efficacy as an antecedent of cognition and affect in technology acceptance, *Journal of Consumer Marketing* 31/3(2014): 190-199.

Kumar, D., Kumar, D., & Saini, A.K. 2007. Acceptability of e-banking among banking employees: a case study of Haryana, *The Journal of Computer Science and Information Technology* 6(1): 28-34.

Kumar, R. 2010. *Research methodology: A step-by-step guide for beginners.* 3rd edition. Thousand Oaks, CA: Sage Publications Ltd.

Kuo, FY. 2013. Critical success factors for motivating and sustaining women's ICT learning, *Computers and Education* 67(2013): 208-218.

Kyndt, E., Vermeire, E., & Cabus, S. 2016. Informal workplace learning among nurses: organisational learning conditions and personal characteristics that predict learning outcomes, *Journal of Workplace Learning* 28(7): 435-450.

Lancaster, S., Milia, LD & Cameron, R. 2013. Supervisor behaviours that facilitate training transfer, *Journal of Workplace Learning* 25(1): 6-22.

Lani, J. 2017. Exploratory factor analysis [Online]. Available from: http://www.statisticssolutions.com/factor-analysis-sem-factor-analysis/ [Accessed: 21 December 2017].

Lantz, A. 2011. Teamwork on the line can pay off down the line, *Journal of Workplace learning* 23(2): 75-96.

Law, K. 2007. *Impact of perceived security on consumer trust in online banking*. Masters in Computer and Information Sciences. Auckland University of Technology.

Law, KMY., Lee, VCS & Yu, YT. 2010. Learning motivation in e-learning facilitated computer programming courses, *Computer & Education* 55 (2010): 218-228.

Lee, MC. 2010. Explaining and predicting users' continuance intention toward e-learning: an extension of the expectation-confirmation model, *Computers & Education* 54(2): 506-516.

Lee, YC., Chu, PY & Tseng, HL. 2011. Corporate performance of ICT-enabled business process re-engineering, *Industrial Management and Data Systems* 111(5): 735:754.

Lee, CC., Czaja, SJ & Sharit, JJ. 2009. Training older workers for technology-based employment, *Education Gerontol* 35(1):15-31.

Leelakulthanit, O & Kini, RB. 2013. Factors driving computer referrals and usage: an empirical study in banking sector, *International Journal of Computer and Information Technology* 2(2): 297-302.

Lesame, NC. 2008. *The impact of information and communication technologies on development: a case study of the influence of telecentres on the education of users.* PhD in Literature and Philosophy: Communication Science: UNISA.

Levesque, R. 2007. *SPSS programming and data management: A Guide for SPSS and SAS Users*. 4th edition. SPSS Inc. Chicago Ill.

Longworth, MK. 2013. An exploration of the perceived factors that affect the learning and transfer of skills taught to student midwives, *Midwifery* 29(2013): 831-837.

Lou, ECW & Goulding, JS. 2010. The pervasiveness of e-readiness in the global built environment arena, *Journal of Systems and Information Technology* 12(3): 180-195.

Luka, MK & Frank, IA. 2012. The impacts of ICTs on Banks, *International Journal of Advanced Computer Science and Applications* 3(9): 145-149.

Luthans, F & Avolio, BJ. 2014. Brief summary of psychological capital and introduction to the special issue. *Journal of Leadership & Organisational Studies* 21(2): 125-129.

MacCann, C., Fogarty, G & Roberts, RD. 2012. Strategies for success in education: time management is more important for part-time than full-time community college students, *Learning and Individual Differences* 22(2012): 618-623.

Mackaracher, D. 2003. *Making sense of adult learning,* University of Toronto Press, Toronto.

Maduku, DK. 2013. Predicting retail banking customers' attitudes towards internet banking services in South Africa, *Southern African Business Review* 17(3): 76-100.

Mai, M. 2012. IT banks: what does it cost? (ed: Speyer, B), *Banking & Technology Snapshot: Digital economy and structural change*: Deutsche Bank (DB) Research. pp. 1-6.

Makeketa, MJS. 2013. Recognition of prior learning for designated employees at the workplace: a case study of ESKOM distribution employees in the Northern Region, South Africa. Master Education: Psychology of Education. University of South Africa, Pretoria.

Makhanu, ES. 2010. Principal's literacy in ICT: Towards improving secondary school performance in Kenya. PhD in Education: Education Management. University of South Africa, Pretoria.

Maldeni, M & Jayasena, S. 2009. Effects of ICT on bank branch performance: a Sri Lankan case study. Proc. *3rd European Conference on Information Management and Evaluation*, 17-18 September 2009, West University, Sweden, pp. 322-327.

Maleka, MBM. 2012. A gender-based analysis of ICT adoption and usage in South Africa. Masters in Management. University of Witwatersrand, Johannesburg.

Maree, K. 2007. *First steps in research.* Pretoria: Van Shaik Publishers.

Marsick, VJ & Watkins, KE. 2015. *Informal and incidental learning in the workplace.* Routledge: Revivals.

Martinez-Sanchez, M-SA., Vela-Jimenez, M-J., Perez-Perez, M & de-Luis-Carnicer, P. 2011. The dynamics of labour flexibility: relationships between employment type and innovativeness, *Journal of Management Studies* 48(4): 715-736.

Mavunga, G & Cross M. 2017. The culture of employee learning in South Africa: towards a conceptual framework, *Journal of Education* 69(14): 303-326.

Mayers, A. 2013. *Introduction to statistics and SPSS in psychology.* London: Pearson.

Mbhalati, OJ. 2010. Knowledge management practices in rural areas of South Africa. PhD in Business Leadership. University of South Africa, Pretoria.

McClain, B and Madrigal, D. 2012. *Strengths and weakness of quantitative and qualitative research* [Online]. Available from: https://www.uxmatters.com/.../strengths-and-weaknesses-of-quantitative-and-qualitativ. [Accessed: 20 February 2018].

Meyer, M. 2017. *Managing human resource development: a strategic learning approach*. 5th Edition. LexisNexis Publishers: Durban.

Michigan State University. 2017. *Intrinsic motivation* [Online]. Available from: https://msu.edu/~dwong/StudentWorkArchive/CEP900F01-RIP/Webber-IntrinsicMotivation.htm [Accessed: 19 December 2017].

Milligan, C., Margaryan, A & Littlejohn, A. 2013. Learning at transition for new and experienced staff, *Journal of Workplace Learning* 25(4): 217-230.

Mitchell, L and Livingstone, DW. 2002. *All on your own time: informal learning practices of bank branch workers*. Research Report: Ontario Institute for Studies in Education, Toronto. New Approaches to Lifelong Learning, pp. 32.

Mitchell, LE. 2012. Workplace learning of Canadian retail bank branch workers in conditions of organisational restructuring. M.A Thesis in Sociology and Equity Studies in Education. University of Toronto, Canada.

Mohone, L., Heusdens, K., Oldani, C., & Ware, T. 2014. *Increasing self-efficacy to enhance learning & motivation* [Online]. Available from: www. mahone.kusd.edu/selfefficacy/SEPPresentationforteachers.pptx [Accessed: 20 February 2018].

Motulsky, H. 2010. *Intuitive Biostatistics: a non-mathematical guide to statistical thinking*. Revised ed. Oxford University press.

Munjuri, MG. 2011. A survey of the criteria used by commercial banks in Kenya to determine employees to retrench, *International Journal of Business Administration* 2(2): 57-81.

Murphy, B. 2015. The impact of reward systems on employee performance. Masters of Business Administration. Dublin Business School, Dublin.

Narmadha, U & Chamundeswari, S. 2013. Attitude towards learning of science and academic achievement in science among students at the secondary level, *Journal of Sociological Research* 4(2): 114-124.

Ndung'u, N. 2012. HR challenges in the Kenyan banking sector. *Opening speech, Ceremony of the Joint Kenya School of Monetary Studies (KSMS) and COMESA Monetary Institute (CMI), Symposium for Central Bank's human resource directors*, held at KSMS, Nairobi, 24 January 2012.

Neuman, LW. 2009. *Social research methods: Quantitative and qualitative approaches.* 7th edition. New York: Pearson Educational Inc.

Nielsen, L. 2011. Classifications of countries based on their level of development: how it is done and how it could be done, *International Monetary Fund Working Paper, WP/11/31*. A Strategy, Policy and Review.

Nikandrou, I., Brinia, V & Bereri, E. 2009. Trainee perceptions of training transfer: an empirical analysis, *Journal of European Industrial Training* 33(3): 255-270.

NRC/GT. 2014. *Strategies to increase the intrinsic value of tasks in your tasks.* National Research Centre on Gifted and Talent Development [Online]. Available from: http://www.gifted.uconn.edu/siegle/goalvaluation/goalva02.html [Accessed: 09 June 2014].

Nyangosi, R., Arora, J. S., & Sing, S. 2009. The evolution of e-banking: a study of Indian and Kenyan technology awareness, *International Journal of Electronic Finance* 3(2): 149-169.

Nzuve, SNM & Omolo, EA. 2012. A study of the practice of the learning organisation and its relationship to performance among Kenyan commercial banks, *Problems of Management in the 21st Century* 4(2012): 45-56.

Odhiambo, LO. 2015. The relationship between capital structure, performance and replacement of CEO in firms listed on the Nairobi securities exchange. DCom thesis. University of South Africa, Pretoria.

OECD, 2017. *Going digital: the future of work for women*, Policy Brief on the Future of Work, July 2017.

Ongori, H & Migiro, SO. 2010. Information and communication technology adoption: a literature review, *Journal of Chinese Entrepreneurship* 2(2): 93-104.

Owen, K. 1995. Test bias and test fairness. In K. Owen & J.J. Taljaard Eds., *Handbook for the use of psychological and scholastic tests of the HSRC*. Pretoria: Human Sciences Research Council.

Pallant, J. 2007. *SPSS survival manual. A step by step guide to data analysis using spss for windows* (3rd ed). Australia: Allen & Unwin.

Pawirosumarto, S., Sarjana, PK & Gunawan, R. 2017. The effect of work environment, leadership style, and organisational culture towards job satisfaction and its implication towards employee performance in Parador Hotels and Resorts, Indonesia, *International Journal of Law and Management* 59(6):1337-1358.

Pinder, AC. 2016. Organisational development and learning technology in the workplace: The migration of university reporting tools. PhD Education, Educational Leadership. Rowan University, USA.

Pineda-Herrero, P., Quesada-Pillares, C., Mas, O., Espona, B & Garcia, N. 2012. VET efficacy: evaluation of factors in the workplace training, *Procedia-Social and Behavioural Sciences* 46(2012): 1390-1394.

Popa, M. 2011. Methods and techniques of quality management for ICT audit processes, *Journal of Mobile, Embedded & Distributed Systems 3*(3):100-108.

Punch, K. 2014. *Introduction to social research, quantitative and qualitative approaches,* (3rd ed.). London: Sage.

Raina, R. 2007. ICT human resource development in Asia and the Pacific: current status, emerging trends, policies and strategies. *UN comprehensive report: Asia and Pacific*

Training Centre for ICT for Development. March 5-6, 2007, Incheon, Republic of Korea, pp. 1-69.

Ramavhona,T.C & Mokwena, S. 2016. Factors influencing internet banking adoption in South African rural areas, *South African Journal of Information Management* 18(2): 642-650.

Rawashdeh, A. 2015. Factors affecting adoption of internet banking in Jordan: Chartered accountants'perspective, *International Journal of Bank Marketing* 33(4): 510-529.

Rigotti, T., Cuyper, ND., Witte, HD., Korek, S & Mohr, G. 2009. Employment prospects of temporary and permanent workers: associations with well-being and work related attitudes, *Psychology of Everyday Activity* 2(1): 22-36.

Ritchie, J & Lewis, J. 2003. *Qualitative research practice: a guide for social science students and researchers.* London: Sage.

Rivera-Torres, P., Araque-Padilla, R. A & Montero-Simo, M.J. 2013. Job stress across gender: the importance of emotional and intellectual demands and social support in women, *International Journal of Environmental Research and Public Health* 10(2013): 375-389.

Robinson, B. 2017. Bank tech new and savvy bank traits [Online]. Available from: https://www.verdict.co.uk/bank-tech-new-and-savvy-bank-traits/ [Accessed: 13 December 2017].

Rodriguez, SG & Purdy, DE. 2015. The effects of budgetary knowledge and extrinsic motivation on the importance that managers attribute to their budgets, *Spanish Journal of Finance and Accounting* 14(1): 47-71.

Rohmetra, N. 2010. *Human resource development in commercial banks in India*. Illustrated edition 2010, Ashgate: India.

Roth, RT. 2013. Human resources benchmark for banks [Online]. Available from: https://www2.deloitte.com/content/dam/Deloitte/global/Documents/HumanCapital/dttl-hc-hrtbenchmarksbanks-8092013.pdf [Accessed: 14 December 2017].

Rugg, G & Petre, M. 2007. *A gentle guide to research methods*. McGraw Hill: Open University Press.

Russo, G. 2015. *Job complexity and skills development in the workplace*. European Centre for the Development of Vocational Education and Training (Cedefop): pp:1-30.

Ruysseveldt, JV & Dijke, MV. 2011. When are workload and workplace learning opportunities related in a curvilinear manner? The moderating role of autonomy, *Journal of Vocational Behaviour* 79(2011):470-483.

Salkind, NJ. 2012a. *Exploring research*. 8th ed. New York, NY USA: Pearson.

Salkind, NJ. 2012b. *100 Questions (and answers) about research methods*. Thousand Oaks, CA: SAGE.

Sambrook, S. 2002. Factors influencing learner's perception of the quality of computer based learning materials, *Journal of European Industrial Training* 2(3): 157-167.

Saranya, J., Anitha, K and Vasantha, S. 2014. An empirical study on the role of ICT in the banking sector, *International Journal of multidisciplinary and current research* (April 2014): 336-340.

Sarapenina. 2014. *What are techniques to prevent unauthorised computer access and use?* [Online]. Available from: https://cybersafety2014.wordpress.com/ [access 10 July 2018].

Sarin, S & McDermott, D. 2003. The effect of team leader characteristics on learning, knowledge application, and performance of cross-functional new product development teams. *Decision Sciences* 34(4): 707-739.

Saunders, M., Lewis, P & Thornhill, A. 2009. *Research methods for business students.* 5th ed. Essex: Pearson Education Limited.

Schuchmann, D & Seufert, S. 2015. Corporate learning in times of digital transformation: a conceptual framework and service portfolio for the learning function in banking organisations, *International Journal of Advanced Corporate Learning* 8(1): 31—39.

Schuchmann, D & Seufert, S. 2015. Supporting bank managers in facilitating employees' continuous learning as a precondition for organisational development and innovation: an empirical study in the banking sector. *ICERI2015 Proceedings, 8th International Conference on Education, Research and Innovation*, 18-20 November 2015, pp. 2169-2180.

Schulze, S & Van Heerden, M. 2015. Learning environments matter: identifying influences on the motivation to learn science, *South African Journal of Education* 35(2): 1-9.

Seibert, S. E., Kraimer, M. L & Crant, J.M. 2001. What do proactive people do? A longitudinal model linking proactive personality and career success, *Personal Psychology* 54(2001): 845-874.

Seraphim, KG. 2010. Enticers and barriers to e-learning-based distance corporate training: the case of a Greek bank, *Turkish Online Journal of Distance Education* 11(4): 1-10.

Shah, MM. Hassan, R & Embi, R. 2012. Computer anxiety: data analysis, *Procedia-Social and Behavioural Sciences* 67(2012):275-286.

Shadish, WR., Cook, TD & Campbell, DT. 2002. *Experimental and quasi-experimental designs for generalized causal inference.* Boston, MA: Houghton Mifflin.

Shan, H. 2012. Learning to 'fit in': the emotional work of Chinese immigrants in Canadian engineering workplaces, *Journal of Workplace Learning* 24(5): 351-364.

Shuttleworth, M. 2016. Quantitative research design [Online]. Available from: https://explorable.com/quantitative-research-design [Accessed: 31 May 2016].

Siddiq, F & Scherer, R. 2015. Teachers' perceived usefulness of ICT in teaching and learning: an important determinant of ICT integration in classroom practices. ECER 2015, *Education & Transition*, 8 September 2015.

Simon, S. 2014. Attitudes to science and to learning science, *Encyclopedia of Science Education*: 1-6.

Smith, R. 2014. *A critical essay on three main approaches or meta-theories in social research*. Action Support Centre, www.asc.org.za/ pp. 1-14.[Accessed: 20 February 2018].

Smith, L.J & Drago, K. 2016. Learner support in the workplace, *Journal of Workplace Learning* 25(4): 264-276.

Srivastava, A., Bartol, K.M & Locke, E.A. 2006. Empowering leadership in management teams: effects on knowledge sharing, efficacy, and performance, *Academy of Management Journal* 49(6): 1239-1251.

Steenkamp, JEM, De Jong, MG & Baumgartner, H. 2010. Socially desirable responses tendencies in survey research, *Journal of Marketing Research* 47(2): 1-20.

Snyman, M. 2013. The influence of learner profile on recognition of prior learning (RPL) assessment. PhD thesis: Education. University of South Africa, Pretoria.

Swaratsingh, KJ. 2015. Enhancing workplace productivity and competitiveness in Trinidad and Tobago through ICT adoption. PhD thesis: Management and Technology. Walden University, West Indies.

Tabibi, S., Khah, SV., Nasiripour, A. A., Vahdat, S & Hessam, S. 2011. Factors inhibiting HRD in the Iranian social security organisation's hospitals, *World Applied Sciences Journal* 15(2): 164-173.

Taris, TW & Kompier, MAJ. 2004. Job characteristics and learning behaviour: review and psychological mechanisms, in Pamela L. Perrewe and Daniel C. Ganster(ed.) *Exploring Interpersonal Dynamics (Research in Occupational Stress and Well-being, Volume 4)*, Emerald Group Publishing Limited, pp.127-166.

Teo, T. 2010. Development and validation of the E-learning Acceptance Measure (ElAM). *Internet and Higher Education* 13(3): 148-152.

Thomas, PY. 2010. Towards developing a web-based blended learning environment at the University of Botswana. PhD in Education. University of South Africa, Pretoria.

Triandis HC. 1979. *Values, attitudes and interpersonal behaviour*. University of Nebraska Press: Lincoln, NE.

Triola, M. F. 2017. *Elementary statistics*. 12 edition. Dutchess Community College: Pearson Publishing Company.

University of California Los Angeles (UCLA). 2016. *Statistical analysis using SPSS* [Online]. Available from: http://www.ats.ucla.edu/stat/spss/whatstat/whatstat.htm [Accessed: 20 September 2016].

University of California, Berkeley (UCB). 2016. Overview of learning theories [Online]: Available from: http://gsi.berkeley.edu/gsi-guide-contents/learning-theory-research/learning-overview/. [Accessed: 08 April 2016].

University of Leicester. 2017. Occupational psychology and training [Online]. Available from: https://www.le.ac.uk/oerresources/psychology/occpsytrainingunit1/page_05.htm [Accessed: 19 December 2017].

University of Missouri-St. Louis (UMSL). 2016. *Population and sampling* [Online]. Available from: http://www.umsl.edu/~lindquists/sample.html [Accessed: 20 September 2016].

University of Southern California (USC). 2013. *Organising your social sciences research paper* [Online]: Available from: http://libguides.usc.edu/writing_guide. [Accessed: 13 October 2013].

University of Southern California (USC). 2014. *Organising your social sciences research paper:* Research Guide by the University of Southern California [Online]. Available from: http://libguides.usc.edu/content.php?pid=83009&sid=818072 [Accessed: 02 April 2014].

Vallerand, RJ., Pelletier, LG., Blais, MR., Briere, NM., Senecal, C & Vallieres, EF. 1992. The academic motivation scale: a measure of intrinsic, extrinsic and a motivation in education, *Educational and Psychological Measurement* 52(1992): 1003-1017.

Van Dort, K. 2016. How to grow intelligent thinking, self-confident students, *The SL 64-3 Autumn features* 2016: 135-137.

Van Wyk, B. 2016. *Research design and methods: Part I and II* [Online]. Available from: https://www.coursehero.com/file/12047739/Research-and-Design-I-II/ [Accessed: 20 September 2016].

Venkatesh, V. 2000. Determinants of perceived ease of use: integrating control, intrinsic motivation and emotion into the technology acceptance model, *Information Systems Research* 11(4): 342-365.

Verschuren, P & Doorewaard, H. 2010. *Designing a research project*. 2nd edition. Eleven: International Publishing.

Vitanova, V., Atanasova-Pachemska, T., Iliev, D and Pachemska, S. 2015. Factors affecting the development of ICT competencies of teachers in primary schools, *Procedia Social and Behavioural Sciences* 191 (2015): 1087-1094.

Vosloo, JJ. 2014. A sport management programme for educator training in accordance with the diverse needs of South African schools. PhD in Movement Education. Potchefstroom Campus, North West University, Rustenburg.

Walumbwa, FO., Orwa, B., Wang, P., & Lawler, JJ. 2005. Transformational leadership, organisational commitment, and job satisfaction: a comparative study of Kenyan and U.S financial firms, *Human Resource Development Quarterly* 16(2): 235-256.

Wang, GG., Dou, Z & Li. N. 2011. A systems approach to measuring return on investment for HRD interventions, *Human Resource Development Quarterly* 13(2): 203-224.

Wanyama, KW & Mutsotso, SN. 2010. Relationship between capacity building and employee productivity on performance of commercial banks in Kenya, *African Journal of History and Culture* 2(5): 73-78.

Warhurst, RP. 2013. Learning in an age of cuts: managers as enablers of workplace learning, *Journal of Workplace Learning* 25(1): 37-57.

Weber, DM & Kauffman, RJ. 2011. What drives global ICT adoption? Analysis and research questions, *Electronic Commerce Research and Applications* 10(2011): 683-701.

Werquin, P. 2010. Recognition of non-formal and informal learning: country practices. *Organisations for Economic Co-operation and Development (OECD.* [Online]. Available from: www.oecd.org/edu/recognition [Accessed: 14 April 2014].

West, S., Finch, J., & Curran, P. 1995. Structural equation models with non-normal variables: Problems and remedies. In R. H. Hoyle (Ed.), *Structural equation modelling: Concepts, issues and applications* (pp. 56-75). Newbury Park, CA: Sage.

Wesutsa, JM. 2012. *The impact of ICT adoption on financial performance of commercial banks in Kenya.* Master of Business Administration Dissertation, University of Nairobi, November 2012.

Williams, D. 2005. *The essential guide to postgraduate study*. Thousand Oaks, CA: Sage.

Williams, DJ. 2008. *An analysis of the factors affecting transfer within the work environment*. Master's Thesis. Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA.

Williams, SA., Wissing, MP., Rothmann, S & Temane, QM. 2010. Self-efficacy, work and psychological outcomes in a public sector context, *Journal of Psychology in Africa* 20(1): 43-52.

Wisker, G. 2008. *The postgraduate research handbook*. 2nd edition. Basingstoke: Palgrave Macmillan.

Wisker, G. 2009. *The postgraduate research handbook*. 3rd edition. Basingstoke: Palgrave Macmillan.

Wong, KT., Teo, T & Russo, S. 2012. Influence of gender and computer teaching efficacy on computer acceptance among Malaysian student teachers: an extended technology acceptance model, *Australasian Journal of Educational Technology* 28(7):1190-1207.

World Bank Group (WBG). 2015. *The effects of technology on employment and implications for public employment services*. Istanbul: The G20 Employment Working Group Meeting, World Bank Group.

World Economic Outlook (WEO), 2012. *IMF advanced economies list* [Online]. Available from: http://www.imf.org/ .[Accessed: 10 April 2012].

Wu,JH., Tennyson, RD & Hsia, TL. 2010. A study of student satisfaction in a blended e-learning system environment, *Computers & Education* 55(1): 155-164.

Xu, J. 2010. Predicting homework time management at the secondary school level: a multilevel analysis, *Learning and Individual Differences* 20(2010): 34-39.

Yang, JT. 2008. Individual attitudes and organisational knowledge sharing, *Tourism Management* 29(2008): 345-353.

Yang, YJ. 1997. The security of electronic banking. In *Proc. 20th National Information Systems Security (NISS) Conference. Available from:* www.csrc.nist.gov.[Accessed: 29 April 2014].

Yau, HK & Cheng, AL. 2011. Factors hindering the learning of ICT: an empirical study in transport sector, *Knowledge and Process Management* 18(4): 220-229.

Yoo, SJ., Han, SH & Huang, W. 2012. The roles of intrinsic motivators and extrinsic motivators in promoting e-learning in the workplace: a case from South Korea, *Computers in Human Behaviour* 28(2012): 942-950.

Yueh, HP, Chen, TL, Chiu, LA and Lin, WC. 2013. Exploring factors affecting learner's perception of learning information and communication technology: A HLM analysis of a national farmers' training program in Taiwan, *Journal of Educational Technology and Society* 16(1): 231-242.

APPENDICES

APPENDIX A: ETHICS APPROVAL LETTER FROM CEMS RESEARCH ETHICS REVIEW COMMITTEE

UNISA university of south africa

DEPARTMENT OF HUMAN RESOURCE MANAGEMENT RESEARCH ETHICS REVIEW COMMITTEE

13 January 2015

Ref #: 2014_HRM_004
Name of applicant:
Brender Adhiambo Okong'o
Student #: 49919962

Dear Ms Brender Adhiambo Okong'o

Decision: Ethics Approval

Name: Ms Brender Adhiambo Okong'o, [49919962@mylife.unisa.ac.za; +27743375357]
Name of Supervisor: Prof Melanie Jean Bushney [mbushney@unisa.ac.za; +27124293748]
Proposal: A framework for learning Kenyan retail banking Information and Communication Technology systems.
Qualification: M.Com Business Management (with specialisation in Human Resource Management)

Thank you for the application for research ethics clearance by the Department of Human Resource Management Research Ethics Review Committee for the above mentioned research. Final approval is granted for the duration of the research project.

Full approval: The revised application was reviewed in compliance with the Unisa Policy on Research Ethics by a sub-committee of Department of Human Resource Management RERC on 13 January 2015.

The proposed research may now commence with the proviso that:

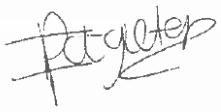
1) The researcher will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2) Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Department of Human Resource Management Research Ethics Review Committee. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.
3) The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.

Note:
The reference number: 2014_HRM_004 should be clearly indicated on all forms of communication [e.g.

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Webmail, E-mail messages, letters] with the intended research participants, as well as with the Department of Human Resource Management RERC.

Kind regards,



Prof IL Potgieter
Chairperson
012 429 3723/ visseil@unisa.ac.za

Prof PT Mpofu
Acting Executive Dean
College of Economic and Management Sciences

APPENDIX B: QUESTIONNAIRES

QUESTIONNAIRE TO TELLERS AND CUSTOMER CARE CONSULTANTS

Please complete this questionnaire containing questions that intend to gather information on the individual employee, Information and Communication Technology (ICT) systems and organisational learning factors that affect or inhibit your learning of the adopted banking ICT systems.

SECTION A: INDIVIDUAL EMPLOYEE FACTORS

A.0 Please indicate your level of agreement with the following perceived *individual employee factors* that affect your learning of the adopted banking ICT systems. Please tick (√) to indicate your responses for ***before attending*** a formal training programme as follows:

1. Strongly Disagree-SD 2. Disagree-D 3. Neutral-N 4. Agree-A 5. Strongly Agree-SA

A.0	**INDIVIDUAL EMPLOYEE FACTORS**	**BEFORE TRAINING**				
A.1.0	**Motivation** Learning the adopted ICT systems:	SD	D	N	A	SA

A.1.1	Enables me to improve on my job performance.	1	2	3	4	5
A.1.2	Is interesting.	1	2	3	4	5
A.1.3	May lead me to a job promotion.	1	2	3	4	5
A.1.4	Motivates me to develop my ICT skills.	1	2	3	4	5
A.1.5	Creates in me a self-initiated approach to work related learning.	1	2	3	4	5
A.2.0	**Self-efficacy** I am:	SD	D	N	A	SA
A.2.1	Confident in my ability to learn the adopted ICT systems.	1	2	3	4	5
A.2.2	Able to recognise learning opportunities that come my way.	1	2	3	4	5
A.2.3	Able to use the adopted ICT systems on my own.	1	2	3	4	5
A.2.4	Confident about my knowledge and skills in ICT systems.	1	2	3	4	5
A.2.5	Confident about using any of the technical functions of the adopted ICT systems.	1	2	3	4	5
A.3.0	**Time management** I:	SD	D	N	A	SA
A.3.1	Am able to manage my own time to learn the adopted ICT systems.	1	2	3	4	5
A.3.2	Am able to identify free time when at work.	1	2	3	4	5
A.3.3	Take plenty of time to learn the adopted ICT systems.	1	2	3	4	5
A.3.4	Have sufficient time to learn the adopted ICT systems.	1	2	3	4	5
A.3.5	Use time on-the-job created by my organisation to learn adopted ICT systems.	1	2	3	4	5
A.4.0	**Attitude** I:	SD	D	N	A	SA
A.4.1	Perform my job tasks better when I learn the adopted ICT systems.	1	2	3	4	5
A.4.2	Have a positive attitude towards my learning of the adopted ICT systems.	1	2	3	4	5
A.4.3	Strive to be more efficient at work through learning more of the adopted ICT systems.	1	2	3	4	5
A.4.4	Take an active approach to my work related learning.	1	2	3	4	5
A.4.5	Am motivated by my prior ICT skills to learn the adopted ICT systems.	1	2	3	4	5
A.5.0	**Any other individual employee** factor that affects your learning of ICT systems? (please specify): …… ……					

SECTION B: BANKING ICT SYSTEMS FACTORS

Please provide your response to *every* option in question B1 and B2 by ticking (√) the *YES* or *NO* option.

B.1 Which of the following banking ICT systems does your banking organisation use?

	Banking ICT systems	YES	NO
B.1.1	Telephone banking	1	2
B.1.2	Electronic funds transfer	1	2
B.1.3	Automated Teller Machines (ATM)	1	2
B.1.4	Home banking	1	2
B.1.5	Internet banking	1	2
B.1.6	Other (please specify):……. …….		

B.2 Which of the following practices that aid the learning of the banking ICT systems are currently applied in your banking organisation?

No	**Practices**	**YES**	**NO**
B.2.1	Engaging in electronic communication sessions such as using emails or telephones.	1	2
B.2.2	Engaging in banking e-learning programmes like computer-aided learning, internet-based learning or mobile cell phone learning.	1	2
B.2.3	Attending banking training, conferences, workshops or seminars.	1	2
B.2.4	Engaging in knowledge sharing meetings or forums at the workplace.	1	2
B.2.5	Other (please specify):…….. …….		

B.3 Please indicate your level of agreement with the following perceived *ICT systems factors* that affect your formal or informal learning of the adopted banking ICT systems. Please tick (√) to indicate your responses for ***before attending*** the first/next formal training programme as follows:

1. Strongly Disagree-SD 2. Disagree-D 3. Neutral-N 4. Agree–A 5. Strongly Agree-SA

B.3.0	**BANKING ICT SYSTEMS FACTORS**	**BEFORE TRAINING**				
B.3.1.0	**Perceived quality of information** The information on the adopted ICT systems:	SD	D	N	A	SA
B.3.1.1	Is relevant to learn.	1	2	3	4	5
B.3.1.2	Is accurate to learn.	1	2	3	4	5
B.3.1.3	Can be easily understood.	1	2	3	4	5
B.3.1.4	Is complete to learn.	1	2	3	4	5
B.3.1.5	Is interesting to read.	1	2	3	4	5
B.3.2.0	**Perceived quality of the ICT systems** The adopted ICT systems:	SD	D	N	A	SA
B.3.2.1	Are reliable to perform my job tasks.	1	2	3	4	5
B.3.2.2	Are flexible to use.	1	2	3	4	5
B.3.2.3	Have a fast response when given the right command.	1	2	3	4	5
B.3.2.4	Are sustainable.	1	2	3	4	5
B.3.2.5	Have clear instructions to follow.	1	2	3	4	5
B.3.3.0	**Perceived ease of use**	SD	D	N	A	SA

	The adopted ICT systems:					
B.3.3.1	Use understandable terms.	1	2	3	4	5
B.3.3.2	Are easy to use.	1	2	3	4	5
B.3.3.3	Are easy to learn.	1	2	3	4	5
B.3.3.4	Have friendly technical functions to use.	1	2	3	4	5
B.3.3.5	Have learning materials that are free of effort to find.	1	2	3	4	5
B.3.4.0	**Perceived usefulness** The adopted ICT systems:	SD	D	N	A	SA
B.3.4.1	Enhance my job performance.	1	2	3	4	5
B.3.4.2	Ease my job tasks.	1	2	3	4	5
B.3.4.3	Are very efficient to achieve my ICT learning goals.	1	2	3	4	5
B.3.4.4	Are useful to learn.	1	2	3	4	5
B.3.4.5	Are comprehensive to cover all my learning needs.	1	2	3	4	5
B.3.5.0	**Perceived security**	SD	D	N	A	SA
B.3.5.1	My work related transactions are protected adequately against unauthorised access.	1	2	3	4	5
B.3.5.2	I take appropriate security measures when using the adopted banking ICT systems.	1	2	3	4	5
B.3.5.3	I am afraid that transaction errors may occur when I use the adopted ICT systems.	1	2	3	4	5
B.3.5.4	I am afraid that my job account can be hacked.	1	2	3	4	5
B.3.5.5	I operate the adopted ICT systems using the right commands.	1	2	3	4	5
B.3.6.0	**Language used**	SD	D	N	A	SA
B.3.6.1	The ICT systems are designed in a familiar language.	1	2	3	4	5
B.3.6.2	It is easy for me to read the language used in the adopted ICT systems.	1	2	3	4	5
B.3.6.3	The use of jargons (technical terms) is minimised in the adopted ICT systems.	1	2	3	4	5
B.3.6.4	Clear definitions of technical terms used are provided in the adopted ICT systems.	1	2	3	4	5
B.3.6.5	The simple language used encourages my quick understanding of the adopted ICT systems.	1	2	3	4	5
B.3.7.0	**Graphics** The adopted ICT systems:	SD	D	N	A	SA
B.3.7.1	Have relevant diagrams.	1	2	3	4	5
B.3.7.2	Have quality pictures.	1	2	3	4	5
B.3.7.3	Use colour to highlight key points for easier reading.	1	2	3	4	5
B.3.7.4	Avoid the use of complex graphics.	1	2	3	4	5
B.3.7.5	Balance the amount of text with the graphics.	1	2	3	4	5
B.3.8.0	**Computer anxiety** Working with computers makes me:	SD	D	N	A	SA
B.3.8.1	Nervous.	1	2	3	4	5
B.3.8.2	Uncomfortable.	1	2	3	4	5

B.3.8.3	Worried whether I will succeed to learn the adopted ICT systems.	1	2	3	4	5
B.3.8.4	Scared.	1	2	3	4	5
B.3.8.5	I have basic knowledge and skills in ICT.	1	2	3	4	5
B.3.9	**Any other ICT systems** factor that affects your learning of ICT systems? (please specify): …… ……					

SECTION C: ORGANISATIONAL FACTORS

C.O Please indicate your level of agreement with the following perceived *organisational factors* that affect your learning of the adopted banking ICT systems. Please tick (√) to indicate your responses for ***before attending*** a formal training programme as follows:

1. Strongly Disagree-SD 2. Disagree-D 3. Neutral-N 4. Agree-A 5. Strongly Agree-SA

C.0	**ORGANISATIONAL FACTORS**	**BEFORE TRAINING**				
C.1.0	**Learning culture** In my organisation:	SD	D	N	A	SA
C.1.1	There is continuous learning.	1	2	3	4	5
C.1.2	I am guided to define my ICT learning objectives.	1	2	3	4	5
C.1.3	I am allowed to make mistakes when learning the adopted ICT systems.	1	2	3	4	5
C.1.4	There are a lot of opportunities that support my learning of the adopted ICT systems.	1	2	3	4	5
C.1.5	I am provided with a variety of ICT learning programmes to bridge my ICT skills and knowledge gaps.	1	2	3	4	5
C.2.0	**Social support**	SD	D	N	A	SA
C.2.1	I am motivated to learn the adopted ICT systems when my peers support me.	1	2	3	4	5
C.2.2	My learning of the adopted ICT systems is enhanced when my manager clearly defines my learning goals.	1	2	3	4	5
C.2.3	I am encouraged when my manager shows an interest in my learning of the adopted ICT systems.	1	2	3	4	5
C.2.4	I perform my job tasks better when my manager coaches me.	1	2	3	4	5
C.2.5	I achieve my ICT learning goals that my manager set.	1	2	3	4	5
C.3.0	**Rewards and recognition** In my organisation:	SD	D	N	A	SA
C.3.1	I am motivated to learn the adopted ICT systems when an appropriate reward and recognition is given to me.	1	2	3	4	5
C.3.2	I appreciate concrete and tangible rewards when I acquire the desired ICT knowledge and skills.	1	2	3	4	5

C.3.3	I am encouraged to learn the adopted ICT systems when I get a positive appraisal.	1	2	3	4	5
C.3.4	My knowledge and skills in ICT acquired prior to the workplace training programmes are recognised.	1	2	3	4	5
C.3.5	I receive incentives for meeting my learning goals in the adopted ICT systems.	1	2	3	4	5
C.4.0	**Job characteristics** In my organisation:	SD	D	N	A	SA
C.4.1	I receive sufficient ICT learning opportunities to successfully adjust to the workplace challenges.	1	2	3	4	5
C.4.2	My job allows the full use of my ICT knowledge and skills.	1	2	3	4	5
C.4.3	I am positively pressured to achieve my ICT learning goals.	1	2	3	4	5
C.4.4	My job is characterised by some form of independence in which I can make my own ICT systems' related decisions.	1	2	3	4	5
C.4.5	My manager encourages me to infuse new ICT ideas into my work.	1	2	3	4	5
C.5.0	**Any other organisational** factor that affects your learning of ICT systems? (please specify): …… ……					

D.0 Please provide any additional comments you have on the factors that affect your learning of banking ICT systems……

……
……..

SECTION E: STRATEGIES

E.0 The following strategies can address the factors that affect the learning of the adopted retail banking ICT systems. Please tick (√) to indicate your level of agreement with each of the following statements as follows:

1. Strongly Disagree-SD 2. Disagree-D 3. Neutral-N 4. Agree-A 5. Strongly Agree-SA

STRATEGIES		SD	D	N	A	SA
	My organisation needs to:					
E.1	Offer mentorship programmes to motivate employees to learn the adopted ICT systems.	1	2	3	4	5
E.2	Align employees' learning needs to the fulfilment of their job obligations.	1	2	3	4	5
E.3	Allow more learning time for the adopted ICT systems during work hours.	1	2	3	4	5
E.4	Promote the usefulness of the adopted ICT systems in order to create positive attitudes amongst the employees.	1	2	3	4	5
E.5	Identify the employees' learning needs when defining the organisational objectives.	1	2	3	4	5

E.6	Encourage both managerial and peer coaching for effective job performance.	1	2	3	4	5
E.7	Recognise and reward employees' informal learning through a formal assessment and evaluation process.	1	2	3	4	5
E.8	Organise regular ICT training programmes to bridge the employees' knowledge and skills gaps in the adopted ICT systems.	1	2	3	4	5
E.9	Regularly evaluate the effectiveness of the adopted ICT systems.	1	2	3	4	5
E.10	Ensure that effective security measures exist to prevent unauthorised access to the adopted ICT systems.	1	2	3	4	5
E.11	Ensure that the designs of ICT learning programmes incorporate learners' competency development needs.	1	2	3	4	5
E.12	Other (please specify)…… ……..					

SECTION F: BIOGRAPHICAL INFORMATION

Please tick (√) *only one response in each of the following questions:*

F.1 What is your gender?

Male	1
Female	2

F.2 To which age category do you belong?

18 to 30 years	1
31 to 40 years	2
41 to 50 years	3
51 to 60 years	4

F.3 What is your highest level of education?

Kenya Certificate of Secondary Education (KCSE)	1
Diploma	2
Undergraduate/Bachelor's Degree	3
Master's Degree	4
Doctoral Degree	5
Other (Please specify)…… ……...	6

F.4 What is your highest level of training in ICT?

No training at all	1
Informal training	2
Formal training with an attendance certificate	3
Formal training with a competence certificate	4
Formal training with a Diploma	5
Formal training with a Degree	6

F.5 What is your job position in the organisation?

Banking teller	1
Banking customer care consultant	2
Other (Please specify) …… ……	3

F.6 What is your employment status?

Permanent	1
Temporary/on contract	2
Other (please specify) …… ……	3

F.7 What is your period of working experience with banking ICT systems?

0 to 2 years	1
3 to 5 years	2
6 to 8 years	3
9 years and above	4

F.8 Over the last two years, how many workshops, seminars, conferences or programmes related to the learning of banking ICT systems have you attended?

0 to 2 training workshops, seminars or conferences	1
3 to 5 training workshops, seminars or conferences	2
6 and more training workshops, seminars or conferences	3

Thank you very much for your invaluable participation and time.

QUESTIONNAIRE TO LINE MANAGERS

Please complete this questionnaire containing questions that intend to gather information on the individual employee, Information and Communication Technology (ICT) systems and organisational learning factors that affect or inhibit the majority of your team of employees' learning of the adopted banking ICT systems.

SECTION A: INDIVIDUAL EMPLOYEE FACTORS

A.O Please indicate your level of agreement with the following perceived *individual employee factors* that affect the majority of your team of employees' learning of the adopted banking ICT systems. Please tick (√) to indicate your responses for ***before their attending*** a formal training programme as follows:

1. Strongly Disagree-SD 2. Disagree-D 3. Neutral-N 4. Agree-A 5. Strongly Agree-SA

A.0	**INDIVIDUAL EMPLOYEE FACTORS**	**BEFORE TRAINING**				
A.1.0	**Motivation** For the majority of my team of employees, learning the adopted ICT systems:	SD	D	N	A	SA
A.1.1	Enables them to improve their job performance.	1	2	3	4	5
A.1.2	Is interesting.	1	2	3	4	5
A.1.3	May lead to a job promotion for them.	1	2	3	4	5
A.1.4	Motivates them to develop their ICT skills.	1	2	3	4	5
A.1.5	Creates in them a self-initiated approach to work related learning.	1	2	3	4	5
A.2.0	**Self-efficacy** The majority of my team of employees is:	SD	D	N	A	SA
A.2.1	Confident in their ability to learn the adopted ICT systems.	1	2	3	4	5
A.2.2	Able to recognise learning opportunities that come their way.	1	2	3	4	5
A.2.3	Able to use the adopted ICT systems on their own.	1	2	3	4	5
A.2.4	Confident about their knowledge and skills in ICT systems.	1	2	3	4	5
A.2.5	Confident about using any of the technical functions of the adopted ICT systems.	1	2	3	4	5
A.3.0	**Time management** The majority of my team of employees:	SD	D	N	A	SA
A.3.1	Is able to manage their own time to learn the adopted ICT systems.	1	2	3	4	5
A.3.2	Is able to identify free time when at work.	1	2	3	4	5
A.3.3	Takes plenty of time to learn the adopted ICT systems.	1	2	3	4	5
A.3.4	Has sufficient time to learn the adopted ICT systems.	1	2	3	4	5
A.3.5	Uses time on-the-job created by our organisation to learn the adopted ICT systems.	1	2	3	4	5
A.4.0	**Attitude** The majority of my team of employees:	SD	D	N	A	SA

A.4.1	Performs their job tasks better when they learn the adopted ICT systems.	1	2	3	4	5
A.4.2	Has a positive attitude towards their learning of the adopted ICT systems.	1	2	3	4	5
A.4.3	Strives to be more efficient at work through learning more of the adopted ICT systems.	1	2	3	4	5
A.4.4	Takes an active approach to their work related learning.	1	2	3	4	5
A.4.5	Is motivated by their prior ICT skills to learn the adopted ICT systems.	1	2	3	4	5
A.5.0	**Any other individual employee** factor that affects their learning of ICT systems?(please specify): …… ……					

SECTION B: BANKING ICT SYSTEMS FACTORS

Please provide your response to *every* option in question B1 and B2 by ticking (√) the *YES* or *NO* option.

B.1 Which of the following banking ICT systems does your banking organisation use?

	Banking ICT systems	YES	NO
B.1.1	Telephone banking	1	2
B.1.2	Electronic funds transfer	1	2
B.1.3	Automated Teller Machines (ATM)	1	2
B.1.4	Home banking	1	2
B.1.5	Internet banking	1	2
B.1.6	Other (please specify):…….. ……		

B.2 Which of the following practices that aid the learning of the banking ICT systems are currently applied in your banking organisation?

No	**Practices**	**YES**	**NO**
B.2.1	Engaging in electronic communication sessions such as using emails or telephones.	1	2
B.2.2	Engaging in banking e-learning programmes like computer-aided learning, internet-based learning or mobile cell phone learning.	1	2
B.2.3	Attending banking training, conferences, workshops or seminars.	1	2
B.2.4	Engaging in knowledge sharing meetings or forums at the workplace.	1	2
B.2.5	Other (please specify):…… ……		

B.3 Please indicate your level of agreement with the following perceived *ICT systems factors* that affect the majority of your team of employees' formal or informal learning of the adopted banking ICT systems. Please tick (√) to indicate your responses for ***before their attending*** the first/next formal training programme as follows:

1. Strongly Disagree-SD 2. Disagree-D 3. Neutral-N 4. Agree-A 5. Strongly Agree-SA

B.3	BANKING ICT SYSTEMS FACTORS	BEFORE TRAINING				
B.3.1.0	**Perceived quality of information** For the majority of my team of employees, the information on the adopted ICT systems:	SD	D	N	A	SA
B.3.1.1	Is relevant to learn.	1	2	3	4	5
B.3.1.2	Is accurate to learn.	1	2	3	4	5
B.3.1.3	Can be easily understood.	1	2	3	4	5
B.3.1.4	Is complete to learn.	1	2	3	4	5
B.3.1.5	Is interesting to read.	1	2	3	4	5
B.3.2.0	**Perceived quality of the ICT systems** For the majority of my team of employees, the adopted ICT systems:	SD	D	N	A	SA
B.3.2.1	Are reliable to perform their job tasks.	1	2	3	4	5
B.3.2.2	Are flexible to use.	1	2	3	4	5
B.3.2.3	Have a fast response when given the right command.	1	2	3	4	5
B.3.2.4	Are sustainable.	1	2	3	4	5
B.3.2.5	Have clear instructions to follow.	1	2	3	4	5
B.3.3.0	**Perceived ease of use** For the majority of my team of employees, the adopted ICT systems:	SD	D	N	A	SA
B.3.3.1	Use understandable terms.	1	2	3	4	5
B.3.3.2	Are easy to use.	1	2	3	4	5
B.3.3.3	Are easy to learn.	1	2	3	4	5
B.3.3.4	Have friendly technical functions to use.	1	2	3	4	5
B.3.3.5	Have learning materials that are free of effort to find.	1	2	3	4	5
B.3.4.0	**Perceived usefulness** For the majority of my team of employees, the adopted ICT systems:	SD	D	N	A	SA
B.3.4.1	Enhance their job performance.	1	2	3	4	5
B.3.4.2	Ease their job tasks.	1	2	3	4	5
B.3.4.3	Are very efficient to achieve their ICT learning goals.	1	2	3	4	5
B.3.4.4	Are useful to learn.	1	2	3	4	5
B.3.4.5	Are comprehensive to cover all their learning needs.	1	2	3	4	5
B.3.5.0	**Perceived security** The majority of my team of employees/The majority of my team of employees'	SD	D	N	A	SA
B.3.5.1	Work related transactions are protected adequately against unauthorised access.	1	2	3	4	5
B.3.5.2	Takes appropriate security measures when using the adopted banking ICT systems.	1	2	3	4	5
B.3.5.3	Is afraid that transaction errors may occur when they use the adopted ICT systems.	1	2	3	4	5

B.3.5.4	Is afraid that their job accounts can be hacked.	1	2	3	4	5
B.3.5.5	Operates the adopted ICT systems using the right commands.	1	2	3	4	5
B.3.6.0	**Language used** For the majority of my team of employees:	SD	D	N	A	SA
B.3.6.1	The ICT systems are designed in a familiar language.	1	2	3	4	5
B.3.6.2	It is easy for them to read the language used in the adopted ICT systems.	1	2	3	4	5
B.3.6.3	The use of jargon (technical terms) is minimised in the adopted ICT systems.	1	2	3	4	5
B.3.6.4	Clear definitions of technical terms used are provided in the adopted ICT systems.	1	2	3	4	5
B.3.6.5	The simple language used encourages their quick understanding of the adopted ICT systems.	1	2	3	4	5
B.3.7.0	**Graphics** For the majority of my team of employees, the adopted ICT systems:	SD	D	N	A	SA
B.3.7.1	Have relevant diagrams.	1	2	3	4	5
B.3.7.2	Have quality pictures.	1	2	3	4	5
B.3.7.3	Use colour to highlight key points for easier reading.	1	2	3	4	5
B.3.7.4	Avoid the use of complex graphics.	1	2	3	4	5
B.3.7.5	Balance the amount of text with the graphics.	1	2	3	4	5
B.3.8.0	**Computer anxiety** Working with computers makes the majority of my team of employees:	SD	D	N	A	SA
B.3.8.1	Nervous.	1	2	3	4	5
B.3.8.2	Uncomfortable.	1	2	3	4	5
B.3.8.3	Worried whether they will succeed to learn the adopted ICT systems.	1	2	3	4	5
B.3.8.4	Scared.	1	2	3	4	5
B.3.8.5	The majority of my team of employees Has basic knowledge and skills in ICT.	1	2	3	4	5
B.3.9	**Any other ICT systems** factor that affects their learning of ICT systems(please specify) …….. ……					

SECTION C: ORGANISATIONAL FACTORS

C.O Please indicate your level of agreement with the following perceived *organisational factors* that affect the majority of your team of employees' learning of the adopted banking ICT systems. Please tick (√) to indicate your responses for ***before their attending*** a formal training programme as follows:

1. Strongly Disagree-SD 2. Disagree-D 3. Neutral-N 4. Agree-A 5. Strongly Agree-SA

C.1.0	ORGANISATIONAL FACTORS	BEFORE TRAINING

C.1.0	**Learning culture** For the majority of my team of employees, in our organisation:	SD	D	N	A	SA
C.1.1	There is continuous learning.	1	2	3	4	5
C.1.2	They are guided to define their ICT learning objectives.	1	2	3	4	5
C.1.3	They are allowed to make mistakes when learning the adopted ICT systems.	1	2	3	4	5
C.1.4	There are a lot of opportunities that support their learning of the adopted ICT systems.	1	2	3	4	5
C.1.5	They are provided with a variety of ICT learning programmes to bridge their ICT skills and knowledge gaps.	1	2	3	4	5
C.2.0	**Social support** The majority of my team of employees/the majority of my team of employees'	SD	D	N	A	SA
C.2.1	Is motivated to learn the adopted ICT systems when their peers support them.	1	2	3	4	5
C.2.2	Learning of the adopted ICT systems is enhanced when I clearly define their learning goals.	1	2	3	4	5
C.2.3	Is encouraged when I show an interest in their learning of the adopted ICT systems.	1	2	3	4	5
C.2.4	Performs their job tasks better when I coach them.	1	2	3	4	5
C.2.5	Achieves their ICT learning goals that I set.	1	2	3	4	5
C.3.0	**Rewards and recognition** For the majority of my team of employees, in our organisation:	SD	D	N	A	SA
C.3.1	They are motivated to learn the adopted ICT systems when an appropriate reward and recognition is given to them.	1	2	3	4	5
C.3.2	They appreciate concrete and tangible rewards when they acquire the desired ICT knowledge and skills.	1	2	3	4	5
C.3.3	They are encouraged to learn the adopted ICT systems when they get positive appraisals.	1	2	3	4	5
C.3.4	Their knowledge and skills in ICT acquired prior to the workplace training programmes are recognised.	1	2	3	4	5
C.3.5	They receive incentives for meeting their learning goals in the adopted ICT systems.	1	2	3	4	5
C.4.0	**Job characteristics** For the majority of my team of employees, in our organisation:	SD	D	N	A	SA
C.4.1	They receive sufficient ICT learning opportunities to successfully adjust to the workplace challenges.	1	2	3	4	5
C.4.2	Their jobs allow the full use of their ICT knowledge and skills.	1	2	3	4	5
C.4.3	They are positively pressured to achieve their ICT learning goals.	1	2	3	4	5
C.4.4	Their jobs are characterised by some form of independence in which they can make their own ICT systems' related decisions.	1	2	3	4	5
C.4.5	I encourage them to infuse new ICT ideas into their work.	1	2	3	4	5
C.5.0	**Any other organisational** factor that affects their learning of ICT systems?(please specify):……..... ……..					

D.1 Please provide any additional comments you have on the factors that affect the majority of your team of employees' learning of banking ICT systems……..

……

SECTION E: STRATEGIES

E.0 The following strategies can address the factors that affect the learning of the adopted retail banking ICT systems. Please tick (√) to indicate your level of agreement with each of the following statements as follows:

1. Strongly Disagree-SD 2. Disagree-D 3. Neutral-N 4. Agree-A 5. Strongly Agree-SA

	STRATEGY	SD	D	N	A	SA
	Our organisation needs to:					
E.1	Offer mentorship programmes to motivate employees to learn the adopted ICT systems.	1	2	3	4	5
E.2	Align employees' learning needs to the fulfilment of their job obligations.	1	2	3	4	5
E.3	Allow more learning time for the adopted systems during work hours.	1	2	3	4	5
E.4	Promote the usefulness of the adopted ICT systems in order to create positive attitudes amongst the employees.	1	2	3	4	5
E.5	Identify the employees' learning needs when defining the organisational objectives.	1	2	3	4	5
E.6	Encourage both managerial and peer coaching for effective job performance.	1	2	3	4	5
E.7	Recognise and reward employees' informal learning through a formal assessment and evaluation process.	1	2	3	4	5
E.8	Organise regular ICT training programmes to bridge the employees' knowledge and skills gaps in the adopted ICT systems.	1	2	3	4	5
E.9	Regularly evaluate the effectiveness of the adopted ICT systems.	1	2	3	4	5
E.10	Ensure that effective security measures exist to prevent unauthorised access to the adopted ICT systems.	1	2	3	4	5
E.11	Ensure that the designs of ICT learning programmes incorporate learners' competency development needs.	1	2	3	4	5
E.12	Other (please specify)…….. ……					

SECTION F: BIOGRAPHICAL INFORMATION

Please tick (√) *only one response in each of the following questions.*

F.1 What is your gender?

Male	1
Female	2

F.2 To which age category do you belong?

18 to 30 years	1
31 to 40 years	2
41 to 50 years	3
51 to 60 years	4

F.3 What is your highest level of education?

Kenya Certificate of Secondary Education (KCSE)	1
Diploma	2
Undergraduate/Bachelor's Degree	3
Master's Degree	4
Doctoral Degree	5
Other (Please specify)	6

F.4 What is your highest level of training in ICT?

No training at all	1
Informal training	2
Formal training with an attendance certificate	3
Formal training with a competence certificate	4
Formal training with a Diploma	5
Formal training with a Degree	6

F.5 What is your employment status?

Permanent	1
Temporary/contract	2
Other (please specify)……..... ……	3

F.6 What is your period of working experience with banking ICT systems?

0 to 2 years	1
3 to 5 years	2
6 to 8 years	3
9 years and above	4

F.7 Over the last two years, how many workshops, seminars, conferences or programmes related to the learning of banking ICT systems have you attended?

0 to 2 training workshops, seminars or conferences	1
3 to 5 training workshops, seminars or conferences	2
6 and more training workshops, seminars or conferences	3

F.8 Indicate your level of agreement with these statements as follows:

1. Strongly Disagree-SD 2. Disagree-D 3. Neutral-N 4. Agree-A 5. Strongly Agree-SA

No	Status of Knowledge/Skills	SD	D	N	A	SA
F.8.1	I am able to contribute to the planning of banking ICT systems.	1	2	3	4	5
F.8.2	I am able to implement the banking ICT systems plans.	1	2	3	4	5
F.8.3	I am able to assess the performance of the banking ICT systems.	1	2	3	4	5
F.8.4	I have a working experience with similar systems.	1	2	3	4	5
F.8.5	I have an educational background knowledge in banking ICT systems.	1	2	3	4	5

Thank you very much for your invaluable participation and time.